

10: Barb O'Brien

27937

Access DB#

## SEARCH REQUEST FORM

Scientific and Technical Information Center

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OCT 26 2000

Requester's Full Name: Dwayne C. Jones Examiner #: 11 Date: 2-10-00  
 Art Unit: 1614 Phone Number 30 8-974 Serial Number: 091432101  
 Mail Box and Bldg/Room Location: CM1/2007 Results Format Preferred (circle) PAPER DISK E-MAIL

2001  
 If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*  
 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched.  
 Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or  
 utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc. if  
 known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: see attached sheet

Inventors (please provide full names): 11

Earliest Priority Filing Date: 11

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

please search claims 7 and 13.

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Point of Contact:  
 Barb O'Brien  
 Technical Info. Specialist  
 CM1 12C14 Tel: 303-4291

## STAFF USE ONLY

## Type of Search

## Vendors and cost where applicable

Searcher: 1614 NA Sequence (#) 197 STN 197  
 Searcher Phone #: 1614 AA Sequence (#) 197 Dialog 197  
 Searcher Location: 1614 Structure (#) 197 Questel/Orbit 197  
 Date Searcher Picked Up: 11-6-00 Bibliographic X Dr.Link 197  
 Date Completed: 11-6-00 Litigation 197 Lexis/Nexis 197  
 Searcher Prep & Review Time: 13 Fulltext 197 Sequence Systems 197  
 Searcher Prep Time: 13 Patent Family 197 WWW/Internet 197  
 Time: 65 Other 197 Other (specify) 197

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=> fil reg; d ide 13; d ide 14; d ide 15

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STRUCTURE FILE UPDATES: 5 NOV 2000 HIGHEST RN 301296-06-0  
DICTIONARY FILE UPDATES: 5 NOV 2000 HIGHEST RN 301296-06-0

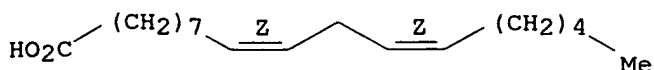
TSCA INFORMATION NOW CURRENT THROUGH July 8, 2000

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Structure search limits have been increased. See HELP SLIMIT  
for details.

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2000 ACS  
RN 60-33-3 REGISTRY  
CN 9,12-Octadecadienoic acid (9Z,12Z)- (9CI) (CA INDEX NAME)  
OTHER CA INDEX NAMES:  
CN 9,12-Octadecadienoic acid (Z,Z)-  
CN Linoleic acid (8CI)  
OTHER NAMES:  
CN (Z,Z)-9,12-Octadecadienoic acid  
CN .alpha.-Linoleic acid  
CN 9,12-Octadecadienoic acid, (Z,Z)-  
CN 9-cis,12-cis-Linoleic acid  
CN 9Z,12Z-Linoleic acid  
CN all-cis-9,12-Octadecadienoic acid  
CN cis,cis-Linoleic acid  
CN cis-.DELTA.9,12-Octadecadienoic acid  
CN cis-9,cis-12-Octadecadienoic acid  
CN Emersol 315  
CN Extra Linoleic 90  
CN Linolic acid  
CN Polylin 515  
CN Unifac 6550  
FS STEREOSEARCH  
MF C18 H32 O2  
CI COM  
LC STN Files: AGRICOLA, ANABSTR, APILIT, APILIT2, APIPAT, APIPAT2,  
BEILSTEIN\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CAOLD, CAPLUS,  
CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM,  
CSNB, DDFU, DETHERM\*, DIOGENES, DIPPR\*, DRUGU, EMBASE, GMELIN\*, HODOC\*,  
HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NAPRALERT,  
NIOSTIC, PDLCOM\*, PIRA, PROMT, RTECS\*, SPECINFO, TOXLINE, TOXLIT,  
TULSA, USPATFULL, VETU  
(\*File contains numerically searchable property data)  
Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)

Double bond geometry as shown.



22482 REFERENCES IN FILE CA (1967 TO DATE)  
982 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
22500 REFERENCES IN FILE CAPLUS (1967 TO DATE)  
10 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L4 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2000 ACS  
RN 57568-21-5 REGISTRY  
CN 8,10-Octadecadienoic acid (6CI, 9CI) (CA INDEX NAME)  
FS 3D CONCORD  
MF C18 H32 O2  
LC STN Files: BEILSTEIN\*, CA, CAOLD, CAPLUS, TOXLIT, USPATFULL  
(\*File contains numerically searchable property data)

$\text{HO}_2\text{C}-(\text{CH}_2)_6-\text{CH}=\text{CH}-\text{CH}=\text{CH}-(\text{CH}_2)_6-\text{Me}$

5 REFERENCES IN FILE CA (1967 TO DATE)  
5 REFERENCES IN FILE CAPLUS (1967 TO DATE)  
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2000 ACS  
RN 168131-31-5 REGISTRY  
CN 11,13-Octadecadienoic acid (9CI) (CA INDEX NAME)  
FS 3D CONCORD  
MF C18 H32 O2  
SR CA  
LC STN Files: CA, CAPLUS, USPATFULL

$\text{HO}_2\text{C}-(\text{CH}_2)_9-\text{CH}=\text{CH}-\text{CH}=\text{CH}-\text{Bu-n}$

3 REFERENCES IN FILE CA (1967 TO DATE)  
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

=> d ide 113

L13 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2000 ACS  
RN 121250-47-3 REGISTRY  
CN Octadecadienoic acid (9CI) (CA INDEX NAME)  
OTHER NAMES:  
CN 9,11(or 10,12)-Octadecadienoic acid  
CN Conjugated linoleic acid  
MF C18 H32 O2  
CI IDS, COM  
SR US Environmental Protection Agency  
LC STN Files: AGRICOLA, BIOBUSINESS, BIOSIS, CA, CAPLUS, CHEMLIST, CIN,  
PIRA, PROMT, TOXLIT, USPATFULL  
Other Sources: DSL\*\*, TSCA\*\*  
(\*\*Enter CHEMLIST File for up-to-date regulatory information)

CM 1

Searched by Barb O'Bryen, STIC 308-4291

CRN 57-11-4  
CMF C18 H36 O2

HO<sub>2</sub>C-(CH<sub>2</sub>)<sub>16</sub>-Me

147 REFERENCES IN FILE CA (1967 TO DATE)  
4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
149 REFERENCES IN FILE CAPLUS (1967 TO DATE)

=> fil capl; d que 153;d que 165; s 153 or 165; fil agricola; d que 167; d que 169; d que 178

FILE 'CAPLUS' ENTERED AT 12:30:41 ON 06 NOV 2000  
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FILE COVERS 1967 - 6 Nov 2000 VOL 133 ISS 20  
FILE LAST UPDATED: 5 Nov 2000 (20001105/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

This file supports REGISTRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

Now you can extend your author, patent assignee, patent information, and title searches back to 1907. The records from 1907-1966 now have this searchable data in CAOLD. You now have electronic access to all of CA: 1907 to 1966 in CAOLD and 1967 to the present in CAPLUS on STN.

L44 ( 1)SEA FILE=REGISTRY ABB=ON 60-33-3  
L45 ( 1)SEA FILE=REGISTRY ABB=ON 57568-21-5  
L46 ( 1)SEA FILE=REGISTRY ABB=ON 168131-31-5  
L47 ( 28715)SEA FILE=CAPLUS ABB=ON L44 OR LINOLEIC ACID  
L48 ( 18)SEA FILE=CAPLUS ABB=ON L45 OR 8(W)10(W)OCTADECADIENOIC  
L49 ( 16)SEA FILE=CAPLUS ABB=ON L46 OR 11(W)13(W)OCTADECADIENOIC  
L50 ( 221665)SEA FILE=CAPLUS ABB=ON ISOMER?  
L51 ( 1)SEA FILE=REGISTRY ABB=ON 121250-47-3  
L52 ( 149)SEA FILE=CAPLUS ABB=ON L51  
L53 10 SEA FILE=CAPLUS ABB=ON (L52 OR L47) (L) L50 AND L48 AND L49

L54 ( 1)SEA FILE=REGISTRY ABB=ON 60-33-3  
L55 ( 1)SEA FILE=REGISTRY ABB=ON 57568-21-5  
L56 ( 1)SEA FILE=REGISTRY ABB=ON 168131-31-5  
L57 ( 28715)SEA FILE=CAPLUS ABB=ON L54 OR LINOLEIC ACID  
L58 ( 18)SEA FILE=CAPLUS ABB=ON L55 OR 8(W)10(W)OCTADECADIENOIC  
L59 ( 16)SEA FILE=CAPLUS ABB=ON L56 OR 11(W)13(W)OCTADECADIENOIC  
L60 ( 1)SEA FILE=REGISTRY ABB=ON 121250-47-3  
L61 ( 149)SEA FILE=CAPLUS ABB=ON L60  
L62 ( 508)SEA FILE=CAPLUS ABB=ON (L61 OR L57) (L) FFD/RL  
L63 ( 6)SEA FILE=CAPLUS ABB=ON L58 (L) FFD/RL *- Role - Food or Feed use*  
L64 ( 4)SEA FILE=CAPLUS ABB=ON L59 (L) FFD/RL  
L65 6 SEA FILE=CAPLUS ABB=ON L62 AND (L63 OR L64)

L83 12 L53 OR L65

Searched by Barb O'Bryen, STIC 308-4291

FILE 'AGRICOLA' ENTERED AT 12:30:45 ON 06 NOV 2000

FILE COVERS 1970 TO 6 Oct 2000 (20001006/ED)

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substance identification.

L66 ( 1)SEA FILE=REGISTRY ABB=ON 57568-21-5  
L67 0 SEA FILE=AGRICOLA ABB=ON L66 OR 8(W)10(W)OCTADECADIENOIC

L68 ( 1)SEA FILE=REGISTRY ABB=ON 168131-31-5  
L69 0 SEA FILE=AGRICOLA ABB=ON L68 OR 11(W)13(W)OCTADECADIENOIC

L70 ( 1)SEA FILE=REGISTRY ABB=ON 60-33-3  
L71 ( 1)SEA FILE=REGISTRY ABB=ON 121250-47-3  
L72 ( 2295)SEA FILE=AGRICOLA ABB=ON L70 OR L71 OR LINOLEIC ACID  
L73 ( 4848)SEA FILE=AGRICOLA ABB=ON ISOMER?  
L74 ( 3662)SEA FILE=AGRICOLA ABB=ON CONJUGAT?  
L75 ( 36)SEA FILE=AGRICOLA ABB=ON L72(L)L73(L)L74  
L76 ( 214019)SEA FILE=AGRICOLA ABB=ON FOOD# OR FEED#  
L77 ( 739)SEA FILE=AGRICOLA ABB=ON ISOMERS/CT  
L78 7 SEA FILE=AGRICOLA ABB=ON L75 AND L76 AND L77

=> fil caba; d que 180; d que 182

FILE 'CABA' ENTERED AT 12:30:50 ON 06 NOV 2000  
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FILE COVERS 1973 TO 6 Oct 2000 (20001006/ED)

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L79 ( 1)SEA FILE=REGISTRY ABB=ON 57568-21-5  
L80 0 SEA FILE=CABA ABB=ON L79 OR 8(W)10(W)OCTADECADIENOIC

L81 ( 1)SEA FILE=REGISTRY ABB=ON 168131-31-5  
L82 3 SEA FILE=CABA ABB=ON L81 OR 11(W)13(W)OCTADECADIENOIC

=> fil frosti; d que 18; d que 19; d que 118; s 18 or 19 or 118

*Food line: Food Science & Technology*  
FILE 'FROSTI' ENTERED AT 12:31:21 ON 06 NOV 2000  
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FILE LAST UPDATED: 18 OCT 2000 <20001018/UP>

L7 61 SEA FILE=FROSTI ABB=ON OCTADECADIENOIC  
L8 1 SEA FILE=FROSTI ABB=ON 8 (W) 10 (W) L7

L7 61 SEA FILE=FROSTI ABB=ON OCTADECADIENOIC  
L9 2 SEA FILE=FROSTI ABB=ON 11 (W) 13 (W) L7

L6 2257 SEA FILE=FROSTI ABB=ON LINOLEIC ACID  
L10 2424 SEA FILE=FROSTI ABB=ON ISOMER?  
L11 1187 SEA FILE=FROSTI ABB=ON CONJUGAT?  
L12 91 SEA FILE=FROSTI ABB=ON L6 (L) L10 (L) L11  
L14 626 SEA FILE=FROSTI ABB=ON ISOMER#/CT  
L16 138141 SEA FILE=FROSTI ABB=ON FOOD# OR FEED#  
L18 11 SEA FILE=FROSTI ABB=ON L12 AND L14 AND L16

L84 13 L8 OR L9 OR L18

=> fil fsta; d que 123; d que 122; d que 133; s 123 or 133; fil wpids; d que 138; d que 139; d que 142; s 138 or 139 or 142

*Food Science & Technology Abstracts*

FILE 'FSTA' ENTERED AT 12:31:57 ON 06 NOV 2000

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FILE LAST UPDATED: 02 NOV 2000 <20001102/UP>

FILE COVERS 1969 TO DATE.

>>> THE FSTA-THESAURUS IN FIELD /CT HAS BEEN RELOADED <<<

L21 145 SEA FILE=FSTA ABB=ON OCTADECADIENOIC  
L23 3 SEA FILE=FSTA ABB=ON 11 (W) 13 (W) L21

L21 145 SEA FILE=FSTA ABB=ON OCTADECADIENOIC  
L22 0 SEA FILE=FSTA ABB=ON 8 (W) 10 (W) L21

L20 3593 SEA FILE=FSTA ABB=ON LINOLEIC ACID  
L24 4446 SEA FILE=FSTA ABB=ON ISOMER?  
L25 2303 SEA FILE=FSTA ABB=ON CONJUGAT?  
L26 96 SEA FILE=FSTA ABB=ON L20 (L) L24 (L) L25  
L27 1024 SEA FILE=FSTA ABB=ON LINOLEIC ACID/CT  
L28 57 SEA FILE=FSTA ABB=ON CONJUGATED LINOLEIC ACID/CT  
L29 204 SEA FILE=FSTA ABB=ON (L25 AND L27) OR L28  
L30 70 SEA FILE=FSTA ABB=ON L26 AND L29  
L31 192196 SEA FILE=FSTA ABB=ON FOOD# OR FEED#  
L32 33 SEA FILE=FSTA ABB=ON L30 AND L31  
L33 3 SEA FILE=FSTA ABB=ON L32 AND DERIV?/TI

L85 6 L23 OR L33

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FILE 'WPIDS' ENTERED AT 12:32:01 ON 06 NOV 2000  
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FILE LAST UPDATED: 02 NOV 2000 <20001102/UP>  
>>>UPDATE WEEKS:  
MOST RECENT DERWENT WEEK 200055 <200055/DW>  
DERWENT WEEK FOR CHEMICAL CODING: 200055  
DERWENT WEEK FOR POLYMER INDEXING: 200055  
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>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES,  
SEE <http://www.derwent.com/covcodes.html> <<<

L37 58 SEA FILE=WPIDS ABB=ON OCTADECADIENOIC  
L38 3 SEA FILE=WPIDS ABB=ON 8 (W) 10 (W) L37

L37 58 SEA FILE=WPIDS ABB=ON OCTADECADIENOIC  
L39 2 SEA FILE=WPIDS ABB=ON 11 (W) 13 (W) L37

L34 1613 SEA FILE=WPIDS ABB=ON LINOLEIC ACID  
L35 25927 SEA FILE=WPIDS ABB=ON ISOMER?  
L36 30982 SEA FILE=WPIDS ABB=ON CONJUGAT?  
L40 22 SEA FILE=WPIDS ABB=ON L34 (L) L35 (L) L36  
L41 529202 SEA FILE=WPIDS ABB=ON FOOD# OR FEED#  
L42 15 SEA FILE=WPIDS ABB=ON L40 AND L41

L86 16 L38 OR L39 OR L42

=> dup rem 178,182,183,184,185,186

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PROCESSING COMPLETED FOR L82

PROCESSING COMPLETED FOR L83

PROCESSING COMPLETED FOR L84

PROCESSING COMPLETED FOR L85

PROCESSING COMPLETED FOR L86

L87 47 DUP REM L78 L82 L83 L84 L85 L86 (10 DUPLICATES REMOVED)

ANSWERS '1-7' FROM FILE AGRICOLA

ANSWERS '8-10' FROM FILE CABA

ANSWERS '11-20' FROM FILE CAPLUS

ANSWERS '21-29' FROM FILE FROSTI

ANSWERS '30-33' FROM FILE FSTA

ANSWERS '34-47' FROM FILE WPIDS

=> d ibib ab hitrn 1-47;fil hom

L87 ANSWER 1 OF 47 AGRICOLA

DUPLICATE 4

ACCESSION NUMBER: 2000:52034 AGRICOLA

DOCUMENT NUMBER: IND22048476

TITLE: Effect of dietary conjugated linoleic acid on the composition of egg yolk lipids.

AUTHOR(S): Du, M.; Ahn, D.U.; Sell, J.L.

CORPORATE SOURCE: Iowa State University, Ames.

SOURCE: Poultry science, Nov 1999. Vol. 78, No. 11. p. 1639-1645

Publisher: Savoy, IL : Poultry Science Association, Inc.

CODEN: POSCAL; ISSN: 0032-5791

NOTE: Includes references

PUB. COUNTRY: Illinois; United States

DOCUMENT TYPE: Article

FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension

LANGUAGE: English

AB Forty-eight 27-wk-old White Leghorn hens were assigned randomly to four diets containing 0, 1.25, 2.5, or 5.0% **conjugated linoleic acid** (CLA). Hens were fed the CLA diets for 2 wk before eggs were collected for the study. Classes of egg yolk lipids were separated, and fatty acid concentrations in total lipid, triglyceride (TG), phosphatidylethanolamine (PE), and phosphatidylcholine (PC) were analyzed to determine the incorporation of dietary CLA **isomers** into different classes of egg yolk lipids. The amounts of CLA incorporated into lipid, PC, PE, and TG of egg yolk were proportional to the levels of CLA in the diet. However, more CLA was incorporated in TG than in PC and PE. The incorporation rates of different CLA **isomers** into different classes of lipids also were significantly different: cis-9, trans-11 and cis-10, trans-12 CLA were deposited more in TG, but cis-11, trans-13 CLA deposition in TG was significantly less. There were large differences in the concentrations of cis-8, trans-10 CLA in PC and PE. The inclusion of CLA into the diet influenced the metabolism of polyunsaturated fatty acids. The contents of 5,8,11,14-eicosatetraenoic, 9,12-octadeca-dienoic, and 9,12,15-octadecatrienoic acids were decreased as dietary CLA increased. Three **isomers** of hexadecadienoic acid were found in egg yolk lipids from hens fed 5% dietary CLA. The detection of hexadecadienoic acid **isomers** in lipid indicates that the utilization of CLA as an energy source after the first round of beta-oxidation may be less favorable than that of 9,12-octadecadienoic acid.

L87 ANSWER 2 OF 47 AGRICOLA

DUPLICATE 7

ACCESSION NUMBER: 94:25432 AGRICOLA

Searched by Barb O'Bryen, STIC 308-4291

DOCUMENT NUMBER: IND20381565  
TITLE: Conjugated dienoic derivatives of linoleic acid. A new class of **food**-derived anticarcinogens.  
AUTHOR(S): Chin, S.F.; Storkson, J.M.; Pariza, M.W.  
AVAILABILITY: DNAL (QD1.A45)  
SOURCE: ACS symposium series, 1993. No. 528. p. 262-271  
Publisher: Washington, D.C. : American Chemical Society, 1974-  
CODEN: ACSMC8; ISSN: 0097-6156  
NOTE: In the series analytic: **Food** Flavor and Safety: Molecular Analysis and Design / edited by A.M. Spanier, H. Okai and M. Tamura.  
Includes references  
PUB. COUNTRY: District of Columbia; United States  
DOCUMENT TYPE: Article  
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension  
LANGUAGE: English

AB CLA is the acronym for a mixture of **conjugated** dienoic **isomers** of **linoleic acid** which occur naturally in **food**. Dairy products and other **foods** derived from ruminant animals are the most significant dietary sources of CLA. Synthetically prepared CLA has been shown to inhibit carcinogen-induced neoplasia in mouse epidermis and forestomach and rat mammary gland. The exact mechanism of anticarcinogenic action of CLA is still unclear. However, CLA exhibits several effects that could be related to its anticarcinogenic property. CLA acts as an antioxidant as evidenced in vitro and in vivo. CLA also inhibits the induction of ornithine decarboxylase by the epidermal tumor promoter, 12-O-tetradecanoylphorbol-13-acetate, apparently through the inhibition of protein kinase C. Following dietary administration of a mixture of CLA **isomers**, only the cis-9, trans-11 **isomer** is found in phospholipid. Thus, the cis-9, trans-11 CLA **isomer**, the major CLA **isomer** in the diet, may be the biologically active form.

L87 ANSWER 3 OF 47 AGRICOLA

ACCESSION NUMBER: 2000:44914 AGRICOLA  
DOCUMENT NUMBER: IND22054845  
TITLE: Reticulo-rumen biohydrogenation and the enrichment of ruminant edible products with **linoleic acid conjugated isomers**.  
AUTHOR(S): Bessa, R.J.B.; Santos-Silva, J.; Ribeiro, J.M.R.; Portugal, A.V.  
CORPORATE SOURCE: Estacao Zootechnica Nacional, Santarem, Portugal.  
AVAILABILITY: DNAL (SF1.L5)  
SOURCE: Livestock production science, May 1, 2000. Vol. 63, No. 3. p. 201-211  
Publisher: Amsterdam, The Netherlands : Elsevier Science.  
CODEN: LPSCDL; ISSN: 0301-6226  
NOTE: Includes references  
PUB. COUNTRY: Netherlands  
DOCUMENT TYPE: Article; Law  
FILE SEGMENT: Non-U.S. Imprint other than FAO  
LANGUAGE: English

L87 ANSWER 4 OF 47 AGRICOLA

ACCESSION NUMBER: 2000:15420 AGRICOLA  
DOCUMENT NUMBER: IND22024471  
TITLE: Conjugated linoleic acid in Canadian dairy and beef products.  
AUTHOR(S): Ma, D.W.L.; Wierzbicki, A.A.; Field, C.J.; Clandinin, M.T.  
Searched by Barb O'Bryen, STIC 308-4291

CORPORATE SOURCE: University of Alberta, Edmonton, Canada.  
AVAILABILITY: DNAL (381 J8223)  
SOURCE: Journal of agricultural and food chemistry, May 1999.  
Vol. 47, No. 5. p. 1956-1960  
Publisher: Washington, D.C. : American Chemical Society.  
CODEN: JAFCAU; ISSN: 0021-8561  
NOTE: Includes references  
PUB. COUNTRY: District of Columbia; United States  
DOCUMENT TYPE: Article  
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension  
LANGUAGE: English

AB **Conjugated linoleic acid** (CLA) is a dietary fatty acid produced by ruminant animals and exhibits promising beneficial health effects. CLA has been identified as having anticancer, antiatherogenic, and body fat reducing effects. There are no published data on the CLA content of Canadian beef and dairy products. The purpose of this study was to assess the level and type of CLA **isomers** found in commercial beef and dairy products. Under the present experimental conditions only the delta9c,11t-18:2 **isomer** was detected. Other minor **isomers**, which may be present, were not determined by the method used in this study. Levels of CLA ranged between 1.2 and 6.2 mg/g of fat or 0.001-4.3 mg/g or mg/mL of sample. On the basis of a usual serving size, levels of CLA ranged between 0.03 and 81.0 mg per serving. It is concluded that the delta9c, 11t-18:2 **isomer** is present in dairy and beef products and levels when expressed per gram of fat are not significantly different among products.

L87 ANSWER 5 OF 47 AGRICOLA

ACCESSION NUMBER: 1999:75954 AGRICOLA  
DOCUMENT NUMBER: IND22010541  
TITLE: **Conjugated linoleic acid isomers** in partially hydrogenated soybean oil obtained during nonselective and selective hydrogenation processes.  
AUTHOR(S): Jung, M.Y.; Ha, Y.L.  
CORPORATE SOURCE: Woosuk University, Samrea-Up, Wanju-Kun, Republic of Korea.  
SOURCE: Journal of agricultural and food chemistry, Feb 1999.  
Vol. 47, No. 2. p. 704-708  
Publisher: Washington, D.C. : American Chemical Society.  
CODEN: JAFCAU; ISSN: 0021-8561  
NOTE: Includes references  
PUB. COUNTRY: District of Columbia; United States  
DOCUMENT TYPE: Article  
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension  
LANGUAGE: English

AB Partially hydrogenated soybean oil samples were collected during selective and nonselective hydrogenation processes. The formation of conjugated linoleic acids (CLAs) during hydrogenation was greatly dependent on the types and duration of hydrogenation processes. During hydrogenation processes, CLA contents increased initially. After reaching maximum CLA content, the content decreased during hydrogenation. Selective hydrogenation was much more favorable for the formation of conjugated linoleic acids. With nonselective hydrogenation process, the total CLA content was a maximum (9.06 mg total CLA/g oil) at 35 min. However, with the selective hydrogenation process, the total CLA content was a maximum (98.27 mg total CLA/g oil) at 210 min. The CLA contents in some of the tested selectively hydrogenated soybean oils were among the highest ever reported in **foods**.

## L87 ANSWER 6 OF 47 AGRICOLA

ACCESSION NUMBER: 2000:51964 AGRICOLA  
DOCUMENT NUMBER: IND22048165  
TITLE: Relation between the intake of milk fat and the occurrence of conjugated linoleic acid in human adipose tissue.  
AUTHOR(S): Jiang, J.; Wolk, A.; Vessby, B.  
CORPORATE SOURCE: Swedish University of Agricultural Sciences, Uppsala, Sweden.  
SOURCE: The American journal of clinical nutrition, July 1999. Vol. 70, No. 1. p. 21-27  
Publisher: Bethesda, Md. : American Society for Clinical Nutrition.  
CODEN: AJCNAC; ISSN: 0002-9165  
NOTE: Includes references  
PUB. COUNTRY: Maryland; United States  
DOCUMENT TYPE: Article  
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension  
LANGUAGE: English

AB Background: **Conjugated linoleic acid (CLA)** is a group of naturally occurring fatty acids mainly present in fats from ruminants. CLA has been shown to be a potential anticarcinogen. Objective: In this study, the relation between bovine milk fat intake and the occurrence of CLA in human adipose tissue was investigated. Design: One hundred twenty-three men weighed and recorded the **foods** they consumed for 1 wk. Afterward, recall interviews were conducted by telephone monthly for 7 consecutive months to inquire about **food** consumption during the previous 24 h. The entire dietary recording procedure was repeated once. The fatty acid composition of adipose tissue and serum was analyzed. Results: The average amount of one **isomer** of CLA--9-cis,11-trans-octadecadienoic acid (9c, 11t-18:2)--as a percentage of total fatty acids was found to be 0.50% in adipose tissue and 0.25% in serum. The amount of 9c, 11t-18:2 in adipose tissue was significantly correlated with milk fat intake ( $r = 0.42$ ). The percentage of 9c,11t-18:2 in both adipose tissue and in serum was strongly correlated with myristoleic acid (14:1). Conclusion: The amount of 9c,11t-18:2 in human adipose tissue was significantly related to milk fat intake.

## L87 ANSWER 7 OF 47 AGRICOLA

ACCESSION NUMBER: 93:8467 AGRICOLA  
DOCUMENT NUMBER: FNI92003841  
TITLE: Dietary sources of **conjugated dienolic isomers of linoleic acid**, a newly recognized class of anticarcinogens.  
AUTHOR(S): Chin, S.F.; Liu, W.; Storkson, J.M.; Ha, Y.L.; Pariza, M.W.  
CORPORATE SOURCE: University of Wisconsin-Madison, Madison, WI  
AVAILABILITY: DNAL (TX501.J68)  
SOURCE: Journal of food composition and analysis, Sept 1992. Vol. 5, No. 3. p. 185-197  
Publisher: Orlando, Fla. : Academic Press.  
ISSN: 0889-1575  
Target Audience: Specialized  
NOTE: Includes references.  
DOCUMENT TYPE: Article  
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension  
LANGUAGE: English

AB **Conjugated dienolic derivatives of linoleic acid (CLA)**, shown to be anticarcinogenic in several animal models, are present in many natural **food** sources. However, few quantitative data on CLA in **food** are available. An improved method for quantifying CLA was developed. The method was used to produce a  
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data base of more than 90 **food** items including meat, poultry, seafood, dairy products, plant oils, and infant and processed **foods**. The principal dietary sources of CLA are animal products. In general, meat from ruminants contains considerably more CLA than meat from nonruminants, with veal having the lowest and lamb the highest (2.7 vs 5.6 mg CLA/g fat). **Foods** derived from nonruminant animals were far lower in CLA content except for turkey. Seafood contained low amounts of CLA, ranging from 0.3 to 0.6 mg CLA/g fat. By contrast dairy products (milk, butter, and yogurt) contained considerable amounts of CLA. Natural cheeses were also high in CLA. Among cheeses, those which were aged or ripened more than 10 months had the lowest CLA content. CLA concentrations in an assortment of processed cheeses did not vary much (avg 5.0 mg CLA/g fat). Plant oils contained far less CLA, ranging from 0.1 mg CLA/g g fat (coconut oil) to 0.7 mg CLA/g fat (safflower oil). Processed, canned, and infant **foods** were comparable in CLA content to similar unprocessed **foods**. Values for **foods** that contained beef, lamb, and veal were generally high in CLA. However the c-9,t-11 CLA **isomer**, believed to be the biologically active form, tended to be lower in cooked meats. In animal and dairy products the c-9,t-11 CLA **isomer** accounted for 75 and 90%, respectively, of the total CLA; in plant oils less than 50% of the total CLA was the c-9,t-11 CLA **isomer**. The results show that considerable differences occur in the CLA content of common **foods** and indicate the possibility of large variations in dietary intakes of CLA.

L87 ANSWER 8 OF 47 CABA COPYRIGHT 2000 CABI DUPLICATE 5  
ACCESSION NUMBER: 1999:157187 CABA  
DOCUMENT NUMBER: 990405460  
TITLE: Preparation, separation, and confirmation of the eight geometrical cis/trans conjugated linoleic acid isomers 8,10- through 11, 13-18:2  
AUTHOR: Eulitz, K.; Yurawecz, M. P.; Sehat, N.; Fritsche, J.; Roach, J. A. G.; Mossoba, M. M.; Kramer, J. K. G.; Adlof, R. O.; Ku, Y.  
CORPORATE SOURCE: US Food and Drug Administration, Center for Food Safety and Applied Nutrition, Washington, DC 20204, USA.  
SOURCE: Lipids, (1999) Vol. 34, No. 8, pp. 873-877. 11 ref. ISSN: 0024-4201  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Conjugated linoleic acid (CLA) mixtures were isomerized with p-toluenesulfinic acid or I2 catalyst. The resultant mixtures of the 8 cis/trans geometric isomers of 8, 10-, 9, 11-, 10, 12-, and 11, 13-octadecadienoic (18:2) acid methyl esters were separated by silver ion-high-performance liquid chromatography (Ag+-HPLC) and gas chromatography (GC). Ag+-HPLC allowed the separation of all positional CLA isomers and geometric cis/trans CLA isomers except 10, 12-18:2. However, one of the 8, 10 isomers (8cis, 10trans-18:2) co-eluted with the 9trans, 11cis-18:2 isomer. There were differences in the elution order of the pairs of geometric CLA isomers resolved by Ag+-HPLC. For the 8, 10 and 9, 11 CLA isomers, cis,trans eluted before trans,cis, whereas the opposite elution pattern was observed for the 11, 13-18:2 geometric isomers (trans,cis before cis,trans). All 8 cis/trans CLA isomers were separated by GC on long polar capillary columns only when their relative concentrations were about equal. Wide differences in the relative concentration of the CLA isomers found in natural products obscured the resolution and identification of a number of minor CLA isomers. In such cases, GC-mass spectrometry of the dimethyloxazoline derivatives was used to identify and confirm co-eluting CLA isomers. For the same positional isomer, the cis,trans consistently eluted before the trans,cis CLA isomers by GC. High resolution mass spectrometry (MS) selected ion recording (SIR) Searched by Barb O'Bryen, STIC 308-4291

of the molecular ions of the 18:1, 18:2, and 18:3 fatty acid methyl esters served as an independent and highly sensitive method to confirm CLA methyl ester peak assignments in GC chromatograms obtained from food samples (milk, cheese, meat and fatty tissues) by flame-ionization detection. The high-resolution MS data were used to correct for the non-selectivity of the flame-ionization detector.

L87 ANSWER 9 OF 47 CABA COPYRIGHT 2000 CABI DUPLICATE 6

ACCESSION NUMBER: 1998:115039 CABA  
DOCUMENT NUMBER: 980403565  
TITLE: Analysis of conjugated linoleic acid isomers and content in French cheeses  
AUTHOR: Lavillonniere, F.; Martin, J. C.; Bougnoux, P.; Sebedio, J. L.  
CORPORATE SOURCE: I.N.R.A., Unite de Nutrition Lipidique, 17 rue Sully, BV 1540, 21034 Dijon Cedex, France.  
SOURCE: Journal of the American Oil Chemists' Society, (1998) Vol. 75, No. 3, pp. 343-352. 27 ref. ISSN: 0003-021X  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The conjugated linoleic acid (CLA) composition of 12 French cheeses was determined by a combination of reversed-phase (RP)-HPLC, gas chromatography-mass spectrometry (GC-MS), GC-Fourier transform infrared (GC-FTIR) and silver nitrate thin-layer chromatography (AgNO<sub>3</sub>-TLC). New isomers ( DELTA 8, 10- and DELTA 11, 13-octadecadienoic acids with all possible cis and trans configurations) that co-eluted with previously identified isomers ( DELTA 9c, 11t-; DELTA 9t, 11c-; DELTA 10c, 12t-; DELTA 10t, 12c-; DELTA 11c, 13c-; DELTA 9c, 11c-; DELTA 10c, 12c-; DELTA 9t, 11t-; DELTA 10t, 12t-octadecadienoic acids) were detected. DELTA 9c, 11t-Octadecadienoic acid was the major CLA isomer in these cheeses. All isomers were present in each product, whatever the production process. However, CLA content in the cheeses varied from 5.3 to 15.80 mg/g of fat, which depended primarily on the origin of the milk (season, geography) and partly on the production process.

L87 ANSWER 10 OF 47 CABA COPYRIGHT 2000 CABI

ACCESSION NUMBER: 1998:104789 CABA  
DOCUMENT NUMBER: 981408600  
TITLE: Silver-ion high-performance liquid chromatographic separation and identification of conjugated linoleic acid isomers  
AUTHOR: Sehat, N.; Yurawecz, M. P.; Roach, J. A. G.; Mossoba, M. M.; Kramer, J. K. G.; Ku, Y.  
CORPORATE SOURCE: Food and Drug Administration, Center for Food Safety and Applied Nutrition, Washington, DC 20204, USA.  
SOURCE: Lipids, (1998) Vol. 33, No. 2, pp. 217-221. 26 ref. ISSN: 0024-4201  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The application of silver-ion impregnated HPLC (Ag+-HPLC) to the separation of complex mixtures of conjugated linolenic acid (CLA) isomers present in commercial CLA sources, foods and biological specimens is described. This method showed a clear separation of CLA isomers into 3 groups related to their trans,trans, cis,trans or trans,cis, and cis,cis configuration of the conjugated double-bond system. In addition, this method separated individual positional isomers of the conjugated diene system within each geometrical isomeric group. Following Ag+-HPLC isolation, gas chromatography (GC)-electron impact mass spectrometry, and GC-direct deposition-Fourier transformed infrared spectroscopy were used to confirm the identity of two major positional isomers in the cis/trans

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region, i.e., DELTA 8,10- and DELTA 11,13-octadecadienoic acids, which had not been chromatographically resolved previously. Furthermore, the potential of this method was demonstrated by showing different Ag+-HPLC profiles exhibiting patterns of isomeric distributions for biological specimens from pigs fed a diet containing a commercial CLA preparation, as well as for a commercial cheese product.

L87 ANSWER 11 OF 47 CAPLUS COPYRIGHT 2000 ACS DUPLICATE 1  
 ACCESSION NUMBER: 1999:819238 CAPLUS  
 DOCUMENT NUMBER: 132:35192  
 TITLE: Method of altering nutritional components of milk produced by a lactating animal  
 INVENTOR(S): Bauman, Dale E.; McGuire, Mark A.; Griinari, Mikko; Chouinard, P. Yvan  
 PATENT ASSIGNEE(S): Cornell Research Foundation, Inc., USA  
 SOURCE: PCT Int. Appl., 31 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9966922	A1	19991229	WO 1998-US12970	19980624
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				

AB The present invention alters mammary synthesis of fat to improve milk quality. These changes in milk compn. represent improvements in nutritional quality consistent with contemporary dietary recommendations. Of special importance is the disclosure of new data relating to specific conjugated linoleic acids (CLA), potent naturally occurring anti-carcinogens. In the course of an investigation to enhance milk content of conjugated **linoleic acid**, it was discovered that abomasal infusion of a single TFA **isomer** caused a marked milk fat depression. This observation was unexpected because the prior art has consistently shown that body fat and milk fat always show reciprocal changes in lactating cows and indicated that CLA's generally reduced body fat in growing animals. The current disclosure demonstrates that an increase in milk fat content of a specific TFA **isomer**, trans-10 C18:1 (J.M. Griinari et al., 1997, 1998) causes MFD (milk fat depression). This observation is in conflict with the prior art that taught that an increase in total TFA caused MFD. These results are applicable to other domestic lactating mammals (e.g., pigs). Upon the infusion of CLA, a portion of the CLA is transferred to the mammary gland and incorporated into milk fat. Hence, the methods disclosed increase the levels of CLA found in milk, thereby improving the nutritional benefits to human health assocd. with CLA.

IT **60-33-3D, Linoleic acid**, conjugated derivs.  
 RL: AGR (Agricultural use); BOC (Biological occurrence); **FFD (Food or feed use)**; BIOL (Biological study); OCCU (Occurrence); USES (Uses)  
 (method of altering nutritional components of milk produced by a lactating animal)

REFERENCE COUNT: 5

REFERENCE(S): (1) Erdman; US 5416115 A 1995 CAPLUS  
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- (2) Luhman; US 5503112 A 1996
- (3) Rawlings; US 4216234 A 1980
- (4) Satter; US 5770247 A 1998
- (5) Scott; US 3925560 A 1975 CAPLUS

L87 ANSWER 12 OF 47 CAPLUS COPYRIGHT 2000 ACS DUPLICATE 2  
 ACCESSION NUMBER: 1999:613659 CAPLUS  
 DOCUMENT NUMBER: 131:228021  
 TITLE: Conjugated linoleic acid compositions  
 INVENTOR(S): Saebo, Asgeir; Skarie, Carl; Jerome, Daria;  
 Haraldsson, Gudmundur  
 PATENT ASSIGNEE(S): Conlinco, Inc., USA  
 SOURCE: PCT Int. Appl., 57 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9947135	A1	19990923	WO 1999-US5806	19990317
W:	AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
US 6015833	A	20000118	US 1998-42767	19980317
AU 9931886	A1	19991011	AU 1999-31886	19990317
EP 950410	A1	19991020	EP 1999-105497	19990317
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
WO 2000009163	A1	20000224	WO 1999-US18094	19990810
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 9954745	A1	20000306	AU 1999-54745	19990810
WO 2000018944	A1	20000406	WO 1999-US22126	19990923
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
AU 9963996	A1	20000417	AU 1999-63996	19990923
PRIORITY APPLN. INFO.:			US 1998-42538	19980317
			US 1998-42767	19980317
			US 1998-132593	19980811
			US 1998-160416	19980925
			WO 1999-US5806	19990317

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WO 1999-US18094 19990810

WO 1999-US22126 19990923

AB Novel compns. contg. conjugated linoleic acids are efficacious as animal feed additives and human dietary supplements. **Linoleic acid** is converted to its conjugated forms by a novel method in which the resulting compn. is low in certain unusual **isomers** compared to conventional conjugated linoleic products. The process involves dissolving an alkali compatible with a nonaq. medium (e.g. KOH, CsOH, CsSO<sub>3</sub>, NEt<sub>4</sub>OH) in propylene glycol, adding a seed oil contg. .gtoreq.50% **linoleic acid**, **isomerizing** by heating under an inert gas to 130-165.degree., sepg. the fatty acid fraction by acidification, and optional further purifn. and dehydration. The **linoleic acid** is converted .gtoreq.90% to conjugated cis-9,trans-11- and trans-10,cis-12-octadecadienoic acids; the product contains <1% 11,13-**isomers**, <1% 8,10-**isomers**, <1% trans,trans-**isomers**, and <1% total unidentified **linoleic acid** species. Sunflower and safflower oils are preferred, owing to their high native 9,12-**linoleic acid** content and low levels of sterols, phospholipids, and other residues.

IT 60-33-3DP, **Linoleic acid**, conjugated **isomers**

RL: FFD (Food or feed use); IMF (Industrial manufacture); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(conjugated **linoleic acid** compns. for food use)

IT 57568-21-5P, 8,10-Octadecadienoic acid 168131-31-5P, 11,13-Octadecadienoic acid

RL: FFD (Food or feed use); IMF (Industrial manufacture); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(feed and food compns. low in; conjugated **linoleic acid** compns. for food use)

REFERENCE COUNT: 2

REFERENCE(S): (1) Belury, M; Nut Rev 1995, V53(4), P83  
(2) Emken; US 3729379 A 1973 CAPLUS

L87 ANSWER 13 OF 47 CAPLUS COPYRIGHT 2000 ACS DUPLICATE 3

ACCESSION NUMBER: 1999:768075 CAPLUS

DOCUMENT NUMBER: 132:92613

TITLE: Conjugated linoleic acid-enriched butter fat alters mammary gland morphogenesis and reduces cancer risk in rats

AUTHOR(S): Ip, Clement; Banni, Sebastiano; Angioni, Elisabetta; Carta, Gianfranca; McGinley, John; Thompson, Henry J.; Barbano, David; Bauman, Dale

CORPORATE SOURCE: Department of Experimental Pathology, Roswell Park Cancer Institute, Buffalo, NY, 14263, USA

SOURCE: J. Nutr. (1999), 129(12), 2135-2142

CODEN: JONUAI; ISSN: 0022-3166

PUBLISHER: American Society for Nutritional Sciences

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Conjugated linoleic acid (CLA) is a potent cancer preventive agent in animal models. The in vivo work with CLA to date has been done with a com. free fatty acid prepn. contg. a mixt. of 9-cis,11-trans, 10-trans,12-cis, and 11-cis,13-trans isomers, although CLA in foods is predominantly (80-90%) the 9-cis,11-trans isomer present in triacylglycerols. We studied whether a high-CLA butter fat has biol. activities similar to those of the com. mixt. of free fatty acid CLA isomers in rats. The rat mammary gland were evaluated by digitized image anal. of epithelial mass in mammary whole mount, terminal end bud (TEB) d., proliferative activity of TEB cells as detd. by proliferating cell nuclear antigen immunohistochem., and by mammary cancer prevention

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bioassay in the methylnitrosourea model. The TEB cells are the target cells for mammary chem. carcinogenesis. Feeding butter fat CLA to rats during the time of pubescent mammary gland development decreased the mammary epithelial mass by 22%, decreased the size of the TEB population by 30%, suppressed the proliferation of TEB cells by 30%, and inhibited mammary tumor yield by 53%. The above variables responded with the same magnitude of change to both butter fat CLA and the mixt. of CLA isomers fed at 0.8% CLA in the diet. There was some selectivity in the uptake or incorporation of 9-cis,11-trans-CLA over 10-trans,12-cis-CLA in the tissues of rats fed the mixt. of CLA isomers. Rats fed the CLA-enriched butter fat also consistently accumulated more total CLA in the mammary gland and other tissues (4-6-fold) compared with rats fed free fatty acid CLA (3-fold increases) at the same dietary intake level. The vaccenic acid (11-trans-C18:1) in butter fat may serve as a precursor for the endogenous synthesis of CLA via the .DELTA.9-desaturase reaction.

IT 121250-47-3, Octadecadienoic acid

RL: BPR (Biological process); FFD (Food or feed use); BIOL

(Biological study); PROC (Process); USES (Uses)

(dietary conjugated **linoleic acid**-enriched butter

fat alters mammary gland morphogenesis and decreases cancer risk in rats)

REFERENCE COUNT: 32

REFERENCE(S): (1) Banni, S; Carcinogenesis 1999, V20, P1019 CAPLUS  
(2) Banni, S; J Am Oil Chem Soc 1994, V71, P1321 CAPLUS  
(3) Banni, S; J Nutr Biochem 1996, V7, P150 CAPLUS  
(6) Belury, M; Nutr Cancer 1996, V26, P149 CAPLUS  
(7) Cesano, A; Anticancer Res 1998, V18, P1429 CAPLUS  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L87 ANSWER 14 OF 47 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 2000:420172 CAPLUS

DOCUMENT NUMBER: 133:219629

TITLE: Silver ion high-performance liquid chromatographic separation of conjugated **linoleic acid isomers**, and other fatty acids, after conversion to p-methoxyphenacyl derivatives

AUTHOR(S): Nikolova-Damyanova, Boryana; Momchilova, Svetlana; Christie, William W.

CORPORATE SOURCE: Institute of Organic Chemistry, Bulgarian Academy of Sciences, Sofia, 1113, Bulg.

SOURCE: J. High Resolut. Chromatogr. (2000), 23(4), 348-352  
CODEN: JHRCE7; ISSN: 0935-6304

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Here we report the beneficial effect of using p-methoxyphenacyl esters for the sepn. of **isomeric conjugated linoleic acid** (CLA) by Ag-HPLC. Using only a single column rather than the multiple columns required by others, and a stepwise gradient, it was possible to sep. to a satisfactory extent satd., trans,trans-, cis,trans/trans,cis-, cis,cis-CLA positional **isomers**, cis-monoenes, methylene-interrupted cis,trans-, trans,cis- and cis,cis-dienes in a single chromatog. run. Some pre-concn. of CLA may be advisable with CLA at natural tissue levels.

IT 60-33-3, **Linoleic Acid**, analysis

60-33-3D, **Linoleic Acid**, deriv.

57568-21-5, 8,10-Octadecadienoic

acid 168131-31-5, 11,13-

Octadecadienoic acid

RL: ANT (Analyte); ANST (Analytical study)

(silver ion high-performance liq. chromatog. sepn. of conjugated

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**linoleic acid isomers**, and other fatty acids, after conversion to p-methoxyphenacyl derivs.)

REFERENCE COUNT: 17  
REFERENCE(S): (1) Adlof, R; J Chromatogr A 1998, V799, P329 CAPLUS  
(4) Chobanov, D; J Planar Chromatogr 1992, V5, P157 CAPLUS  
(6) Christie, W; J High Resol Chromatogr, Chromatogr Commun 1987, V10, P148 CAPLUS  
(7) Dobson, G; J Am Oil Chem Soc 1998, V75, P137 CAPLUS  
(8) Eulitz, K; Lipids 1999, V34, P873 CAPLUS  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L87 ANSWER 15 OF 47 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 2000:2684 CAPLUS  
DOCUMENT NUMBER: 132:121934  
TITLE: Milk yield and composition during abomasal infusion of conjugated linoleic acids in dairy cows  
AUTHOR(S): Chouinard, P. Y.; Corneau, L.; Saebo, A.; Bauman, D. E.  
CORPORATE SOURCE: Department of Animal Science, Cornell University, Ithaca, NY, 14853, USA  
SOURCE: J. Dairy Sci. (1999), 82(12), 2737-2745  
CODEN: JDSCAE; ISSN: 0022-0302  
PUBLISHER: American Dairy Science Association  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Conjugated linoleic acids (CLA) refer to a mixt. of positional and geometric **isomers** of **linoleic acid** with conjugated double bounds. Three com. CLA supplements which differed in **isomer** enrichment were infused into the abomasum of 4 lactating Holstein dairy cows to det. their postruminal effects on milk yield and compn. The cows received 3-day abomasal infusions of 5 kg skim milk (control and CLA carrier), CLA supplement 1 (28.8 g/day; contg. 6.9 g 9-cis/11-trans-CLA, 6.4 g 8-cis/10-trans-CLA), CLA supplement 2 (48.5 g/day; 7.1 g 9-cis/11-trans-CLA, 4.1 g 8-cis/10-trans-CLA, 8.3 g 10-cis/12-trans-CLA, 5.5 g 11-cis/13-trans-CLA), and CLA supplement 3 (16.3 g/day; 7.1 g 9-cis/11-trans-CLA, 7.2 g 10-cis/12-trans-CLA). The infusions increased the CLA content in milk fat from 0.43 g/100 g fat in controls to 1.02, 1.52, and 0.95 g/100 g fat for CLA supplements 1, 2, and 3, resp. The apparent efficiency of CLA transfer into milk fat was 25.2, 33.5, 21.0, and 28.4% for 8-cis/10-trans-CLA, 9-cis/11-trans-CLA, 10-cis/12-trans-CLA, and 11-cis/13-trans-CLA, resp. CLA had no effect on dry matter intake, milk yield, and milk protein content. The CLA supplements decreased the content and yield of milk fat by 28 and 25%, resp. The similarity of responses to different CLA supplements did not allow to identify specific role of different **isomers**, but the changes in milk fatty acid compn. indicated that the effects were primarily on de novo fatty acid synthesis and the desatn. process.

IT 121250-47-3, Conjugated **linoleic acid**

RL: BPR (Biological process); FFD (**Food or feed use**); BIOL (Biological study); PROC (Process); USES (Uses)

(abomasal infusions of com. conjugated **linoleic acid** preps. effects on milk yield and compn. in dairy cows)

REFERENCE COUNT: 34  
REFERENCE(S): (5) Chouinard, P; J Nutr 1999, V129, P1579 CAPLUS  
(7) Christie, W; J Lipid Res 1982, V23, P1072 CAPLUS  
(9) Drackley, J; J Dairy Sci 1992, V75, P1517 CAPLUS  
(10) Dugan, M; Can J Anim Sci 1997, V77, P723 CAPLUS  
(11) Erdman, R; Tri-State Dairy Nutrition Conference 1996, P1 CAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT  
Searched by Barb O'Bryen, STIC 308-4291

L87 ANSWER 16 OF 47 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1999:682257 CAPLUS

DOCUMENT NUMBER: 132:2937

TITLE: Lipase-catalyzed fractionation of conjugated  
**linoleic acid isomers**AUTHOR(S): Haas, Michael J.; Kramer, John K. G.; McNeill, Gerald;  
Scott, Karen; Foglia, Thomas A.; Sehat, Najibulla;  
Fritsche, Jan; Mossoba, Magdi M.; Yurawecz, Martin P.

CORPORATE SOURCE: USDA, ARS, ERRC, Wyndmoor, PA, 19038, USA

SOURCE: Lipids (1999), 34(9), 979-987  
CODEN: LPDSAP; ISSN: 0024-4201

PUBLISHER: AOCS Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The abilities of lipases produced by the fungus *Geotrichum candidum* to selectively fractionate mixts. of conjugated **linoleic acid (CLA) isomers** during esterification of mixed CLA free fatty acids and during hydrolysis of mixed CLA Me esters were examd. The enzymes were highly selective for cis-9,trans-11-CLA:2. A com. CLA Me ester prepn., contg. at least 12 species representing four positional **CLA isomers**, was incubated in aq. soln. with either a com. *G. candidum* lipase prepn. (Amano GC-4) or lipase produced from a cloned high-selectivity *G. candidum* lipase B gene. In both instances selective hydrolysis of the cis-9,trans-11-CLA:2 Me ester occurred, with negligible hydrolysis of other **CLA isomers**. The content of cis-9,trans-11-CLA:2 in the resulting free fatty acid fraction was between 94 (lipase B reaction) and 77% (GC-4 reaction). The com. CLA mixt. contained only trace amts. of trans-9,cis-11-CLA:2, and there was no evidence that this **isomer** was hydrolyzed by the enzyme. Analogous results were obtained with these enzymes in the esterification in org. solvent of a com. prepn. of CLA free fatty acids contg. at least 12 **CLA isomers**. In this case, *G. candidum* lipase B generated a Me ester fraction that contained >98% cis-9,trans-11-CLA:2. *Geotrichum candidum* lipases B and GC-4 also demonstrated high selectivity in the esterification of CLA with ethanol, generating Et ester fractions contg. 96 and 80%, resp., of the cis-9, trans-11 **isomer**. In a second set of expts., CLA synthesized from pure **linoleic acid**, composed essentially of two **isomers**, cis-9,trans-11 and trans-10,cis-12, was utilized. This was subjected to esterification with octanol in an aq. reaction system using Amano GC-4 lipase as catalyst. The resulting ester fraction contained up to 97% of the cis-9,trans-11 **isomer**. After adjustment of the reaction conditions, a concn. of 85% trans-10,cis-12-CLA:2 could be obtained in the unreacted free fatty acid fraction. These lipase-catalyzed reactions provide a means for the preparative-scale prodn. of high-purity cis-9,trans-11-CLA:2, and a corresponding CLA fraction depleted of this **isomer**.

IT 60-33-3DP, **Linoleic acid**, conjugated  
**isomers**RL: BPN (Biosynthetic preparation); FFD (Food or feed use); BIOL  
(Biological study); PREP (Preparation); USES (Uses)  
(lipase-catalyzed fractionation of conjugated **linoleic acid isomers**)

REFERENCE COUNT: 38

REFERENCE(S): (2) Arcos, J; Biotechnol Lett 1998, V20, P617 CAPLUS  
(3) Baillargeon, M; Lipids 1991, V26, P831 CAPLUS  
(4) Berdeaux, O; J Am Oil Chem Soc 1997, V74, P1011 CAPLUS  
(5) Catoni, E; Biotechnol Tech 1997, V11, P689 CAPLUS  
(6) Charton, E; Biochim Biophys Acta 1992, V1123, P59 CAPLUSALL CITATIONS AVAILABLE IN THE RE FORMAT  
Searched by Barb O'Bryen, STIC 308-4291

L87 ANSWER 17 OF 47 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1999:563797 CAPLUS  
DOCUMENT NUMBER: 131:198710  
TITLE: Variations in isomer distribution in commercially available conjugated linoleic acid  
AUTHOR(S): Yurawecz, Martin P.; Sehat, Najibullah; Mossoba, Magdi M.; Roach, John A. G.; Kramer, John K. G.; Ku, Youh  
CORPORATE SOURCE: Center Food Safety Applied Nutrition, US Food Drug Administration, Washington, DC, 20204, USA  
SOURCE: Fett/Lipid (1999), 101(8), 277-282  
CODEN: FELIFX; ISSN: 0931-5985  
PUBLISHER: Wiley-VCH Verlag GmbH  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Conjugated linoleic acid (CLA) are reported to have anticarcinogenic and antiatherogenic properties, to repartition body fat, to build bone mass, to normalize glucose tolerance, and to reduce hyperglycemia and diabetes. Representative com. CLA products in capsule or liq. (aq. or oily) form were analyzed for their CLA content and isomer compn. using gas chromatog. (GC), Ag ion-high performance liq. chromatog. (Ag+-HPLC), and spectroscopic techniques. The content of CLA in the preps. varied widely. Based on the GC-internal std. technique, total CLA varied from 20-89% by total wt. and 28-94% of total fat. One product contained no CLA. The isomer distributions were generally of two types: those with 2 major CLA positional isomers, and those with 4 major CLA positional isomers. All the CLA preps. in capsule form contained the 4 isomer mixt., while the liq. preps. contained from 2-4 CLA positional isomers.

IT 121250-47-3, Conjugated linoleic acid

RL: ANT (Analyte); FFD (Food or feed use); ANST (Analytical study); BIOL (Biological study); USES (Uses)

(variations in isomer distribution in com. available conjugated linoleic acid)

REFERENCE COUNT: 32

REFERENCE(S): (1) Chin, S; J Food Comp Anal 1992, V5, P185 CAPLUS  
(2) Chin, S; J Nutr 1994, V124, P2344 CAPLUS  
(3) Dugan, M; Can J Anim Sci 1997, V77, P723 CAPLUS  
(4) Fogerty, A; Nutr Rep Internat 1988, V38, P937 CAPLUS  
(5) Ha, Y; J Agric Food Chem 1989, V37, P75 CAPLUS  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L87 ANSWER 18 OF 47 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1999:504978 CAPLUS  
DOCUMENT NUMBER: 131:157047  
TITLE: Impact of novel methodologies on the analysis of conjugated linoleic acid(CLA). Implications of CLA feeding studies  
AUTHOR(S): Mossoba, Magdi M.; Kramer, John K. G.; Yurawecz, Martin P.; Sehat, Najibullah; Roach, John A. G.; Eulitz, Klaus; Fritsche, Jan; Dugan, Michael E. R.; Ku, Yeoh  
CORPORATE SOURCE: Center Food Safety Applied Nutrition, US Food Drug Administration, Washington, DC, 20204, USA  
SOURCE: Fett/Lipid (1999), 101(7), 235-243  
CODEN: FELIFX; ISSN: 0931-5985  
PUBLISHER: Wiley-VCH Verlag GmbH  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Interest in conjugated linoleic acid (CLA) has increased in the past decade as a result of reports of several health benefits related to its consumption. Naturally occurring CLA  
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**isomers** are found in milk, dairy, and meat products from ruminants. Detailed **isomeric** compn. of CLA in different chem. and biol. matrixes had been hindered by the lack of adequate anal. techniques. New methodologies were developed and used to det. the distribution of major and minor geometric and positional CLA **isomers** in cheese, beef, cow milk, human adipose, and human milk. Base-catalyzed methylation was used. A novel Ag+- HPLC procedure was developed, which successfully resolved up to 16 **isomers**. The double bond configuration and position for CLA **isomers** were confirmed by gas chromatog. (GC)-direct deposition-Fourier transform IR spectroscopy and GC-electron ionization mass spectrometry, resp.: the incorporation of CLA **isomers** in tissues of animals fed CLA diets was also detd. Currently available anal. data suggest the need to re-evaluate prior CLA studies and their nutritional and biol. implications.

IT 121250-47-3, Conjugated **linoleic acid**

RL: ANT (Analyte); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study)

(**isomeres**; novel methods for detn. of conjugated **linoleic acid**)

REFERENCE COUNT:

56

REFERENCE(S):

- (1) Ackman, R; Can Inst Food Sci Technol J 1981, V14, P103 CAPLUS
  - (2) Banni, S; J Nutr Biochem 1996, V7, P150 CAPLUS
  - (3) Chew, B; Anticancer Res 1997, V17, P1099 CAPLUS
  - (4) Chin, S; J Food Comp Anal 1992, V5, P185 CAPLUS
  - (5) Chin, S; J Nutr 1994, V124, P2344 CAPLUS
- ALL CITATIONS AVAILABLE IN THE RE FORMAT

L87 ANSWER 19 OF 47 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1999:199313 CAPLUS

DOCUMENT NUMBER: 130:236642

TITLE: Enhanced resolution of conjugated **linoleic acid isomers** by tandem-column

silver-ion high performance liquid chromatography

AUTHOR(S):

Rickert, Rainer; Steinhart, Hans; Fritsche, Jan; Sehat, Najibullah; Yurawecz, Martin P.; Mossoba, Magdi M.; Roach, John A. G.; Eulitz, Klaus; Ku, Yuoh; Kramer, John K. G.

CORPORATE SOURCE:

Inst. Biochemistry Food Chemistry, Dep. Food Chemistry, Univ. Hamburg, Hamburg, D-20146, Germany  
J. High Resolut. Chromatogr. (1999), 22(3), 144-148  
CODEN: JHRCE7; ISSN: 0935-6304

PUBLISHER:

Wiley-VCH Verlag GmbH

DOCUMENT TYPE:

Journal

LANGUAGE:

English

AB A com. mixt. of conjugated **linoleic acid** (CLA)

**isomers**, reportedly consisting of six components, was recently resolved into 12 peaks attributed to CLA **isomers** using Ag+-HPLC.

In this study, the coupling of 2 anal. Ag+-HPLC columns (tandem-column Ag+-HPLC) in series led to the enhanced resoln. of CLA **isomers**.

Many CLA **isomers** were baseline-resolved and the pair 18:2 8,10

c/t and 18:2 7,9 c/t found in cheese products, was resolved for the first time. In this work, a similar com. CLA mixt. was sepd. into 16 peaks,

while CLA **isomers** from cheese also gave rise to 16 peaks. As

expected, the CLA **isomers** were sepd. into 3 geometric groups in

the order trans,trans, cis/trans, and cis,cis. Semi-preparative Ag+-HPLC, followed by GC-MS of the dimethyloxazoline derivs., was used to confirm

the identity of the newly resolved positional CLA **isomers**. The

double bond configuration of CLA **isomers** was established by

GC-FTIR. Two minor t,t CLA **isomers** found in cheese, presumably

18:2 t6t8 and 18:2 t13t15, were also sepd. The CLA **isomeric**

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compn. of 16 com. cheese products was detd.

REFERENCE COUNT: 24

REFERENCE (S): (1) Ackman, R; NF Can Inst Food Sci Technol J 1981, V14, P103 CAPLUS  
(2) Adlof, R; J Am Oil Chem Soc 1995, V72, P571 CAPLUS  
(3) Chin, S; J Food Comp Anal 1992, V5, P185 CAPLUS  
(4) Dugan, M; Can J Anim Sci 1997, V77, P723 CAPLUS  
(5) Fay, L; J Chromatogr 1991, V541, P89 CAPLUS  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L87 ANSWER 20 OF 47 CAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1998:743891 CAPLUS

DOCUMENT NUMBER: 130:94684

TITLE: Identification of conjugated **linoleic**

**acid isomers** in cheese by gas chromatography, silver ion high performance liquid chromatography and mass spectral reconstructed ion profiles. Comparison of chromatographic elution sequences

AUTHOR(S): Sehat, Najibullah; Kramer, John K. G.; Mossoba, Magdi M.; Yurawecz, Martin P.; Roach, John A. G.; Eulitz, Klaus; Morehouse, Kim M.; Ku, Youh

CORPORATE SOURCE: Center for Food Safety and Applied Nutrition, U.S. Food and Drug Administration, Washington, DC, 20204, USA

SOURCE: Lipids (1998), 33(10), 963-971

CODEN: LPDSAP; ISSN: 0024-4201

PUBLISHER: AOCS Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Com. cheese products were analyzed for their compn. and content of conjugated **linoleic acid (CLA) isomers**. The total lipids were extd. from cheese using petroleum ether/diethyl ether and methylated using NaOCH<sub>3</sub>. The fatty acid Me esters (FAME) were sepd. by gas chromatog. (GC), using a 100-m polar capillary column, into nine minor peaks besides that of the major rumenic acid, 9c, 11t-octadecadienoic acid (18:2), and were attributed to 19 CLA **isomers**. By using silver ion-high performance liq. chromatog. (Ag+-HPLC), CLA **isomers** were resolved into seven trans,trans (5-9%), three cis/trans (10-13%), and five cis,cis (<1%) peaks, totaling 15, in addn. to that of the 9c, 11t-18:2 (78-84%). The FAME of total cheese lipids were fractionated by semipreparative Ag+-HPLC and converted to their 4,4-dimethyloxazoline derivs. after hydrolysis to free fatty acids. The geometrical configuration of the CLA **isomers** was confirmed by GC-direct deposition-Fourier transform IR, and their double bond positions were established by GC-electron ionization mass spectrometry. Reconstructed mass spectral ion profiles of the m + 2 allylic ion and the m + 3 ion (where m is the position of the second double bond in the parent conjugated fatty acid) were used to identify the minor CLA **isomers** in cheese. Cheese contained 7t,9c-18:2 and the previously unreported 11t,13c-18:2 and 12c,14t-18:2, and their trans,trans and cis,cis geometric **isomers**. Minor amts. of 8,10-, and 10,12-18:2 were also found. The predicted elution orders of the different CLA **isomers** on long polar capillary GC and Ag+-HPLC columns are also presented.

IT 121250-47-3, Conjugated **linoleic acid**

RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)

(identification of conjugated **linoleic acid isomers** in cheese by gas chromatog., silver ion high performance liq. chromatog. and mass spectral reconstructed ion profiles)

Searched by Barb O'Bryen, STIC 308-4291



REFERENCE COUNT: 48  
REFERENCE(S): (1) Chew, B; Anticancer Res 1997, V17, P1099 CAPLUS  
(2) Chin, S; J Food Comp Anal 1992, V5, P185 CAPLUS  
(3) Chin, S; J Nutr 1994, V124, P2344 CAPLUS  
(4) Dugan, M; Can J Anim Sci 1997, V77, P723 CAPLUS  
(5) Fay, L; J Chromatogr 1991, V541, P89 CAPLUS  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L87 ANSWER 21 OF 47 FROSTI COPYRIGHT 2000 LFRA  
ACCESSION NUMBER: 521381 FROSTI  
TITLE: CLA - the milkfat wonder.  
AUTHOR: Berry D.  
SOURCE: Dairy Foods, 2000, (February), 101 (2), 33-34 (2 ref.)  
ISSN: 0888-0050  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB **Conjugated linoleic acid** (CLA) occurs in dairy products and other **foods** (e.g. beef). CLA refers to the **isomers** of the essential fatty acid **linoleic acid**. Animal studies have shown that CLA inhibits tumour growth, reduces the risk of cancer, reduces atherosclerosis and helps to protect against diabetes. The cis-9, trans-11 **isomer** of **linoleic acid** has been found to be particularly bioactive. The cis-12, trans-10 **isomer** has been shown to inhibit the storage of fat in the body. Natural and synthesized CLA produce similar results. Research studies have investigated how the amount of CLA in cows' milk can be increased by changes in **feed** composition. A table presents the CLA content of various **foods**.

L87 ANSWER 22 OF 47 FROSTI COPYRIGHT 2000 LFRA  
ACCESSION NUMBER: 512932 FROSTI  
TITLE: Conjugated linoleic acid compositions.  
INVENTOR: Saebo A.; Skarie C.; Jerome D.; Haraldsson G.  
PATENT ASSIGNEE: ConLinCo Inc.  
SOURCE: European Patent Application  
PATENT INFORMATION: EP 950410 A1 19991020  
APPLICATION INFORMATION: 19990317  
PRIORITY INFORMATION: United States 19980317; 19980925; 19980811  
NOTE: 19991020  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB Novel compositions of **conjugated linoleic acids** (CLA) are useful for animal and human nutrition as **feed** additives and dietary supplements. The preparation of these compositions involves controlling the **isomerization** of 9,12-**linoleic acid**.

L87 ANSWER 23 OF 47 FROSTI COPYRIGHT 2000 LFRA  
ACCESSION NUMBER: 500436 FROSTI  
TITLE: Improved separation of conjugated fatty acid methyl esters by silver ion-high-performance liquid chromatography.  
AUTHOR: Sehat N.; Rickert R.; Mossoba M.M.; Kramer J.K.G.; Yurawecz M.P.; Roach J.A.G.; Adlof R.O.; Morehouse K.M.; Fritsche J.; Eulitz K.D.; Steinhart H.; Ku Y.  
SOURCE: Lipids, 1999, (April), 34 (4), 407-413 (18 ref.)  
ISSN: 0024-4201  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB A silver ion-HPLC method for separating fatty acid methyl esters with  
Searched by Barb O'Bryen, STIC 308-4291

improved resolution of **conjugated linoleic acid (CLA) isomers** and separation of 18:2 and 20:2 **conjugated fatty acid isomers** is presented. Separations are achieved using three silver ion-HPLC columns in series. The method enables the separation of several previously coeluting pairs of CLA **isomers** found in food systems.

L87 ANSWER 24 OF 47 FROSTI COPYRIGHT 2000 LFRA

ACCESSION NUMBER: 506369 FROSTI

TITLE: **Conjugated linoleic acid**  
(CLA) **isomers**: formation, analysis, amounts  
in **foods**, and dietary intake.

AUTHOR: Fritsche J.; Rickert R.; Steinhart H.; Yurawecz M.P.;  
Mossoba M.M.; Sehat N.; Roach J.A.G.; Kramer J.K.G.;  
Ku Y.

SOURCE: Fett (Lipid), 1999, (August), 101 (8), 272-276 (42  
ref.)

ISSN: 0931-5985

DOCUMENT TYPE: Journal

LANGUAGE: English

SUMMARY LANGUAGE: English; German

AB **Conjugated linoleic acid (CLA)** has been found to have beneficial effects on health, including chemoprotection, antidiabetic effects, and reduced risk of atherosclerosis. This review discusses the formation and dietary intake of CLA. Analysis of CLA **isomers** may be performed by capillary gas chromatography or by silver-ion HPLC with specified detection methods. These techniques may be used for analysis of geometric and positional **isomers** of CLA. Estimates of the CLA content of **foods** from Germany are given. **Foods** sampled include milks, dairy products, meat and meat products, oils, margarines and fish. CLA occurs naturally with trans fatty acids in meat and milk fat of cattle and other ruminants. Estimates of daily intake are 0.36 g for men and 0.44 for women. Further research is needed to evaluate the effects and biological activity of individual **isomers** of CLA.

L87 ANSWER 25 OF 47 FROSTI COPYRIGHT 2000 LFRA

ACCESSION NUMBER: 459737 FROSTI

TITLE: **Conjugated linoleic acid**  
(CLA) **isomers** in human adipose tissue.

AUTHOR: Fritsche J.; Mossoba M.M.; Yurawecz M.P.; Roach  
J.A.G.; Sehat N.; Ku Y.; Steinhart H.

SOURCE: Zeitschrift fur Lebensmittel-Untersuchung  
und-Forschung A, 1997, 205 (6), 415-418 (13 ref.)

DOCUMENT TYPE: Journal

LANGUAGE: English

SUMMARY LANGUAGE: English

AB **Conjugated linoleic acid (CLA)** occurs in a number of **foods**, the main dietary source being dairy products. CLA has attracted considerable interest as it has been shown to have strong anticancer effects both in vitro and in animal models. CLA is a complex mixture of **conjugated** octadecadienoic geometric and positional **isomers**, and is found in plant oils and beef, as well as in dairy products. Gas chromatography-direct deposition-Fourier transform infrared spectroscopy and gas chromatography-electron ionization mass spectrometry were used to detect derivatives of various geometric CLA **isomers** in human adipose tissue.

L87 ANSWER 26 OF 47 FROSTI COPYRIGHT 2000 LFRA

ACCESSION NUMBER: 336995 FROSTI

TITLE: Changes in the content of conjugated linoleic acid  
(CLA) in processed cheese during processing.  
Searched by Barb O'Bryen, STIC 308-4291

AUTHOR: Garcia-Lopez S.; Echeverria E.; Tsui I.; Balch B.  
SOURCE: Food Research International, 1994, 27 (1), 61-64 (12  
ref.)  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB CLA is present in various **foods** and animal tissues, particularly in dairy products; its biological role is under investigation. This research note presents evaluation of changes in the level of CLA and its isomers in processed cheese, sampled at five points in the production process. In the batch of cheese studied, it was found that about 86% of the CLA found in processed cheese was contributed by the raw ingredients. Over 75% was the c-9, t-11 isomer; this is thought to be the biologically active form.

L87 ANSWER 27 OF 47 FROSTI COPYRIGHT 2000 LFRA

ACCESSION NUMBER: 524892 FROSTI  
TITLE: Method of producing conjugated fatty acids.  
INVENTOR: Pariza M.W.; Yang X.-Y.  
PATENT ASSIGNEE: Wisconsin Alumni Research Foundation  
SOURCE: United States Patent  
PATENT INFORMATION: US 6060304 B 19000509  
APPLICATION INFORMATION: 19981013  
NOTE: 19000509  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB An easily grown and **food-safe** microorganism that is capable of producing the active **isomer(s)** of **conjugated linoleic acid** and other **conjugated fatty acids** is described. A Lactobacillus microorganism is combined with free fatty acids in a fermentation process.

L87 ANSWER 28 OF 47 FROSTI COPYRIGHT 2000 LFRA

ACCESSION NUMBER: 523966 FROSTI  
TITLE: Conjugated linoleic acid compositions.  
INVENTOR: Saebo A.; Skarie C.  
PATENT ASSIGNEE: ConLinCo Inc.  
SOURCE: United States Patent  
PATENT INFORMATION: US 6015833 B 19000118  
APPLICATION INFORMATION: 19990317  
NOTE: 19000118  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB Novel compositions of **conjugated linoleic acids (CLA)** are useful for animal and human nutrition as **feed** additives and dietary supplements. The preparation of these compositions involves controlling the **isomerization** of **9,12-linoleic acid**.

L87 ANSWER 29 OF 47 FROSTI COPYRIGHT 2000 LFRA

ACCESSION NUMBER: 526317 FROSTI  
TITLE: Triacylglycerols of enriched CLA content.  
INVENTOR: Haraldsson G.G.; Saebo A.; Skarie C.; Jerome D.  
PATENT ASSIGNEE: Conlinco Inc.  
SOURCE: PCT Patent Application  
PATENT INFORMATION: WO 0018944 A1  
APPLICATION INFORMATION: 19990923  
PRIORITY INFORMATION: United States 19980925  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
Searched by Barb O'Bryen, STIC 308-4291

## SUMMARY LANGUAGE: English

AB Triacylglycerols with an enriched CLA content are described. These compositions contain conjugated linoleic acids with c9, t11-octadecadienoic and t10, c12-octadecadienoic isomers accounting for at least 80%, and less than 5% each of 8,10-octadecadienoic acyl- and 11,13-octadecadienoic acyl-glycerol isomers, and various trans, trans8,10-octadecadienoic acyl isomers. The novel conjugated linoleic-acid-containing compositions may be prepared from free fatty acids by dissolving in propylene glycol in the presence of an organic or inorganic alkali (potassium hydroxide or tetraethylammonium hydroxide), adding a seed oil, heating to about 150 C under non-reflux conditions, and acidification, to separate the fatty acid fraction. This fraction may be distilled under vacuum or centrifuged.

L87 ANSWER 30 OF 47 FSTA COPYRIGHT 2000 IFIS

ACCESSION NUMBER: 2000(08):P1229 FSTA FS FSTA

TITLE: [New **food** composition, based on milk **derived** ingredients, in the form of an oil in water emulsion.]

AUTHOR: Depierris, A.; Carcano, D.

CORPORATE SOURCE: Compagnie Gervais Danone

SOURCE: French Patent Application

PATENT INFORMATION: FR 2784268 A1 2000

PRIORITY APPLN. INFO: FR 98-12731 12 Oct. 1998

DOCUMENT TYPE: Patent (Patent)

LANGUAGE: French

AB A **food** product based on milk derived ingredients and in the form of an oil in water emulsion, optionally whipped, is characterized by the fact that lipid content is <50% by wt. and that it contains an efficacious concn. of .gtoreq.1 **isomer** of **conjugated linoleic acid** in the esterified form. Products of this type include fermented dairy products, including yoghurt and creme fraiche.

L87 ANSWER 31 OF 47 FSTA COPYRIGHT 2000 IFIS

ACCESSION NUMBER: 2000(10):A1462 FSTA FS FSTA

TITLE: Chemical synthesis of **conjugated** linoleic acid (CLA) **derivatives** with glycerol.

AUTHOR: Won-Seck Pa; Seck-Jong K; Sook-Jahr Pa; Jeong-Ok K; Dong-Gil L; Yeong-Lae

CORPORATE SOURCE: Correspondence (Reprint) address, Yeong-Lae Ha, Div. of Applied Chem. &amp; Food Tech., Gyeongsang Nat. Univ., Chinju 660-701, Korea

SOURCE: Journal of the Korean Society of Food Science and Nutrition, (2000) 29 (3) 389-394, 18 ref. ISSN: 1226-3311.

DOCUMENT TYPE: Journal

LANGUAGE: Korean SL English

AB **Conjugated linoleic acid** (CLA) acts as an anticarcinogen in several animal models. In this study, CLA synthesized by alkaline **isomerization** of **linoleic acid** was variously derivatized with glycerol by chemical methods, for potential use as a **food** additive. CLA-triglyceride, CLA-diglyceride and CLA-monoglyceride were synthesized using CLA-chloride in combination with glycerol and pyridine at 25.degree. C for 8 h, followed by fractionation by silica gel column chromatography and TLC, and identification of fractions by IR spectroscopy, NMR spectroscopy and MS; free fatty acid residues amounted to slightly >40% of original mass.

L87 ANSWER 32 OF 47 FSTA COPYRIGHT 2000 IFIS

ACCESSION NUMBER: 95(11):N0009 FSTA FS FSTA

Searched by Barb O'Bryen, STIC 308-4291

TITLE: Furan fatty acids determined as oxidation products of conjugated octadecadienoic acid.  
AUTHOR: Yurawecz, M. P.; Hood, J. K.; Mossoba, M. M.; Roach, J. A. G.; Yuoh Ku  
CORPORATE SOURCE: Div. of Sci. & Applied Tech., HFS-175, FDA, 200 C St., S.W., Washington, DC 20204, USA  
SOURCE: Lipids, (1995) 30 (7) 595-598, 21 ref.  
ISSN: 0024-4201.  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The objective of this study was to identify oxidation products of conjugated linoleic acid (CLA), a series of octadecadienoic acids with conjugated double bonds, which have been reported to have antioxidant and anticarcinogenic properties. Reference materials of CLA were oxidized in different concn. of water/methanol, e.g. 0.5 g octadecadienoic acid was dissolved in 50 ml methanol, and 100 ml water was added; this suspension was heated at 50.degree. C and continuously aerated. Aliquots (5 ml) were taken over time, extracted with ether, treated with diazomethane and examined by gas GC/MS and/or GC-FID. Products identified included the following furan fatty acids (FFA): 8,11-epoxy-8,10-octadecadienoic; 9,12-epoxy-9,11-octadecadienoic; 10,13-epoxy-10,12-octadecadienoic; and 11,14-epoxy-11,13-octadecadienoic. Conjugated dienes should be considered as a possible source of FFA, and CLA may have products common to furans in their overall oxidative scheme. (AS (WJS))

L87 ANSWER 33 OF 47 FSTA COPYRIGHT 2000 IFIS

ACCESSION NUMBER: 92(01):A0094 FSTA FS FSTA  
TITLE: [Naturally-occurring novel anticarcinogens:  
**conjugated dienoic derivatives of linoleic acid (CLA).**]

AUTHOR: Ha, Y. L.; Pariza, M. W.  
CORPORATE SOURCE: Correspondence (Reprint) address, M. W. Pariza, Dep. of Food Microbiol. & Toxicology, Univ. of Wisconsin, Madison, WI 53706, USA  
SOURCE: Journal of the Korean Society of Food and Nutrition, (1991) 20 (4) 401-407, 26 ref.

DOCUMENT TYPE: Journal  
LANGUAGE: Korean SL English

AB Anticarcinogenic **conjugated dienoic derivatives of linoleic acid (CLA)** are present in grilled beef, cheese, and related foods. CLA is generated via **isomerization of linoleic acid** in the rumen of cows by anaerobic bacteria and also by **food processing**. Another source of CLA is its endogenous generation via the carbon centred free radical oxidation of **linoleic acid**. It is proposed that the formation and generation of CLA in vivo represents a previously unrecognized in situ 'defense mechanism' against membrane attack by oxygen free radicals. The cis, 9-trans, 11 CLA **isomer** is selectively incorporated into cellular phospholipid, which exhibits a potent antioxidant, reduces the activation of 2-amino-3-methylimidazo [4,5-f] quinoline (IQ) for bacterial mutagenesis, and inhibits ornithine decarboxylase (ODC) activity induced by 12-O-tetradecanoylphorbol-13-acetate (TPA). It is believed that these 3 biological activities of CLA explain the anticarcinogenic activity of CLA. (AS (HAB))

L87 ANSWER 34 OF 47 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 2000-329051 [28] WPIDS  
DOC. NO. CPI: C2000-099711  
TITLE: **Food composition based on milk-originated substances, in form of oil-in-water emulsion, comprises mono-, di- and-or tri- glycerides of one or more active**  
Searched by Barb O'Bryen, STIC 308-4291

isomers of conjugate linoleic acids.  
 DERWENT CLASS: D13 E17  
 INVENTOR(S): CARCANO, D; DEPIERRIS, A  
 PATENT ASSIGNEE(S): (DANO-N) CIE DANONE SA GERVAIS  
 COUNTRY COUNT: 89  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000021379	A1	20000420	(200028)*	FR	14
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
FR 2784268	A1	20000414	(200028)		
AU 9960953	A	20000501	(200036)		

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000021379	A1	WO 1999-FR2452	19991012
FR 2784268	A1	FR 1998-12731	19981012
AU 9960953	A	AU 1999-60953	19991012

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9960953	A Based on	WO 200021379

PRIORITY APPLN. INFO: FR 1998-12731 19981012

AB WO 200021379 A UPAB: 20000613

NOVELTY - **Food** composition, based on dairy matter, in form of oil-in-water emulsion, optionally over-rich, with fat content preferably below 50 wt.%, contains mono-, di- and/or tri- glycerides of one or more active isomers of conjugate linoleic acids (MG CLA, DG CLA and/or TG CLA).

DETAILED DESCRIPTION - **Food** composition, based on dairy matter, in form of oil-in-water emulsion, optionally over-rich, with fat content preferably below 50 (especially 4-33) wt.%, contains effective quantity (1-15%, preferably 1.5-13%) of mono-, di- and/or tri- glycerides of one or more active isomers of conjugate linoleic acids (MG CLA, DG CLA and/or TG CLA).

USE - In **food** and dairy industry, as dietary dairy product helping to maintain body weight.

ADVANTAGE - Owing to presence of conjugated linoleic acids, the composition promotes building and development of muscle tissue to the detriment of accumulation of fat.

Dwg.0/0

L87 ANSWER 35 OF 47 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 2000-349848 [30] WPIDS

CROSS REFERENCE: 1999-561842 [47]; 2000-224185 [18]

DOC. NO. CPI: C2000-106400

TITLE: New acylglycerides having a biologic effect is useful as a dietary supplement.

DERWENT CLASS: D13 D16 E17

INVENTOR(S): HARALDSSON, G G; JEROME, D; SAEBO, A; SKARIE, C

PATENT ASSIGNEE(S): (CONL-N) CONLINCO INC

COUNTRY COUNT: 89

Searched by Barb O'Bryen, STIC 308-4291

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000018944	A1	20000406	(200030)*	EN	29
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL					
OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES					
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS					
LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ					
TM TR TT UA UG US UZ VN YU ZA ZW					
AU 9963996	A	20000417	(200035)		

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000018944	A1	WO 1999-US22126	19990923
AU 9963996	A	AU 1999-63996	19990923

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9963996	A Based on	WO 200018944

PRIORITY APPLN. INFO: US 1998-160416 19980925

AB WO 200018944 A UPAB: 20000725

NOVELTY - An acylglyceride having a biologic effect and used as a dietary supplement is new.

DETAILED DESCRIPTION - An acylglyceride of formula (I) having a biologic effect is new.

R1,R2,R3 = OH or C18:2 fatty acid

The acylglyceride contains at least one C18:2 fatty acid moiety which is c9, t11-octadecadienoic acid or t10, c12-octadecadienoic acid.

INDEPENDENT CLAIMS are also included for:

(a) an acylglyceride as above for safe administration to animal as feed stuff or food;

(b) a process for making acylglycerols enriched with conjugated linoleic acids comprising providing a C18:2 fatty acid preparation containing greater than 70% conjugated linoleic acids in the aggregate or its lower alkyl esters of formula (II) containing less than 5% 8,10-octadecadienoic and 11,13

octadecadienoic acids or its alkyl esters; reacting at 30-75 deg.

C the C18:2 fatty acid preparation with glycerol in the presence of a solid phase bound lipase to form acylglycerol.

(c) an acylglyceride intermediate of formula (III).

R = H, Me, Et, (iso)propyl, butyl or isobutyl

Q1,Q3 = C18:2 fatty acid moiety;

Q2 = OH

C18:2 fatty acid moiety is active conjugated fatty acids comprising c9, t11-octadecadienoic acid and/or t10, c12-octadecadienoic acid.

USE - Has therapeutic and pharmacologic applications as well as used as a dietary supplement.

ADVANTAGE - The triglyceride is much more stable to oxidation than the esters or free fatty acids, enhancing the product shelf-life and storage potential. The triglyceride-diglyceride-monoglyceride is increasingly fat miscible with increasing CLA acylation.

Dwg.0/2

L87 ANSWER 36 OF 47 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 2000-224185 [19] WPIDS  
Searched by Barb O'Bryen, STIC 308-4291

CROSS REFERENCE: 1999-561842 [47]; 2000-349848 [25]  
 DOC. NO. CPI: C2000-068366  
 TITLE: Preparation of conjugated linoleic acid alkyl ester for use as a **feed, food** ingredient or supplement by a reaction catalyzed by a non-aqueous alcoholate.  
 DERWENT CLASS: B05 D13  
 INVENTOR(S): SAEBO, A; SKARIE, C  
 PATENT ASSIGNEE(S): (CONL-N) CONLINCO INC  
 COUNTRY COUNT: 88  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000009163	A1	20000224	(200019)*	EN	28
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW					
AU 9954745	A	20000306	(200030)		

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000009163	A1	WO 1999-US18094	19990810
AU 9954745	A	AU 1999-54745	19990810

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9954745	A Based on	WO 200009163

PRIORITY APPLN. INFO: US 1998-132593 19980811

AB WO 200009163 A UPAB: 20000624

NOVELTY - Animal **feed** compounded from conventional ingredients in a ration typical for the species and age of an animal, together with **conjugated linoleic acid** alkyl esters in a biologically active concentration, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a **conjugated linoleic acid** alkyl ester for safe use as a **feed, food** ingredient or supplement obtained by direct **isomerization** of an unrefined **linoleic acid** comprising: (a) a **conjugated linoleic acid** alkyl ester composition of **isomers** in one part comprising at least 50 wt.% of ester **isomers** selected from c9,t11-octadecadienoic acid alkyl ester and/or t10,c12-octadecadienoic acid alkylester; (b) less than 5% by aggregate weight of ester **isomers** selected from 8,10-octadecadienoic acid alkyl esters, 11,13-octadecanoic acid alkyl esters and trans,trans-octadecadienoic acid alkyl esters; and (c) 0.1-0.5 % phosphatidyl residue remaining after **isomerization** of unrefined **linoleic acid**;

(2) a **conjugated linoleic acid** alkyl ester for use in domestic animal **feed, food** ingredients or human dietary supplements made by treating unrefined **linoleic acid** alkyl ester (containing 0.1-0.5% phosphatidyl residue) with an alkali alcoholate at low temperature in the presence of a monohydric low molecular weight alcohol to cause

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**isomerization** of at least 50% of the **linoleic acid** alkyl ester to **conjugated** linoleic alkyl ester at low temperature, followed by acidification with an aqueous acid and separation of the desired product without distillation.

USE - **Conjugated linoleic acid** alkyl esters have nutritional benefits and are useful in **food** and feedstuffs.

ADVANTAGE - **Feed safe conjugated linoleic acid** alkyl ester can be manufactured under conditions which control **isomerization** to the desired 10,12 and 9,11 **isomers** while limiting formation of 8,10 and 11,13 and trans,trans species. The process is commercially viable because of the reduced amount of steps (special purification and refining steps are not needed).  
Dwg.0/2

L87 ANSWER 37 OF 47 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD  
ACCESSION NUMBER: 2000-349661 [30] WPIDS  
CROSS REFERENCE: 1999-009358 [01]  
DOC. NO. CPI: C2000-106328  
TITLE: Method of treating meat used for animal **feed** industries involves administering conjugated linoleic acid to meat producing animal to enhance firmness, red fiber content in meat.  
DERWENT CLASS: D12 E17  
INVENTOR(S): BUEGE, D R; COOK, M E; JEROME, D L; MOZDZIAK, P; PARIZA, M W; MOZDZIAK, P E  
PATENT ASSIGNEE(S): (WISC) WISCONSIN ALUMNI RES FOUND  
COUNTRY COUNT: 88  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6060087	A	20000509	(200030)*		5
WO 2000035300	A1	20000622	(200035)	EN	
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					
AU 9961493	A	20000703	(200046)		

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 6060087	A	CIP of	US 1997-845535 19970425
			US 1998-212613 19981216
WO 2000035300	A1		WO 1999-US21399 19990916
AU 9961493	A		AU 1999-61493 19990916

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
US 6060087	A	CIP of US 5851572
AU 9961493	A	Based on WO 200035300

PRIORITY APPLN. INFO: US 1998-212613 19981216; US 1997-845535 19970425

AB US 6060087 A UPAB: 20000921

NOVELTY - Shelf life of the meat is increased by administering conjugated  
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linoleic acid (CLA) to meat producing animal (such as mammal, ovian, and avian).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

- (i) a method of increasing red fiber in meat;
- (ii) a method of altering the ratio of saturated fatty acid to unsaturated fatty acid in meat;
- (iii) a method to reduce oxidative rancidity of animal meat.

USE - For animal **feed** industries such as bovine, equine and ovine.

ADVANTAGE - The firmness of the meat, the red fibers, ratio of saturated to unsaturated fatty acids is increased. The decrease in polyunsaturated fatty acid reduces susceptibility to oxidative rancidity by decreasing the reactive double bonds.

Dwg.0/0

L87 ANSWER 38 OF 47 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD  
 ACCESSION NUMBER: 2000-302533 [26] WPIDS  
 DOC. NO. CPI: C2000-091575  
 TITLE: Bulk-production of animal **feed** containing conjugated linoleic acid produced by simultaneous fat splitting and alkali treatment of specified plant oils without additional purification.  
 DERWENT CLASS: D13 E17  
 INVENTOR(S): REMMEREIT, J  
 PATENT ASSIGNEE(S): (NATU-N) NATURAL NUTRITION LTD  
 COUNTRY COUNT: 1  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6042869	A	20000328	(200026)*		9

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 6042869	A	US 1998-27075	19980220

PRIORITY APPLN. INFO: US 1998-27075 19980220

AB US 6042869 A UPAB: 20000531

NOVELTY - Production of safe and palatable animal **feed** comprising **conjugated linoleic acid**, obtained without need for purification, involves industrial size manufacture by fatty-acid splitting and alkali treatment of safflower oil or sunflower oil.

DETAILED DESCRIPTION - A method of formulating an animal **feed**, comprising:

- (1) providing a seed oil selected from sunflower oil and safflower oil;
- (2) fat-splitting and alkali treatment of the selected oil such that an **isomerized** preparation is obtained comprising at least 50% **isomerization of linoleic acid to conjugated linoleic acid**;
- (3) separation of the aqueous fraction from non-aqueous fraction, the latter containing **conjugated linoleic acid**; and
- (4) formulating an animal **feed** from the non-aqueous fraction.

An INDEPENDENT CLAIM is also included for a method of formulating an animal **feed** from sunflower oil or safflower oil

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**isomerized to form conjugated linoleic acid**, which involves separation of a non-aqueous fraction containing the **conjugated linoleic acid** from an aqueous fraction without distillation.

USE - For increasing lean to fat ratio when fed to animals e.g. hogs, cattle, and also suitable for **feed** of domesticated animals, poultry.

ADVANTAGE - Contains **conjugated** fatty acid which can be produced economically in industrial-scale bulk process whilst having sufficiently low phosphatide and sterol content to not require additional purification by distillation, before incorporation in animal **feed**

Dwg.0/0

L87 ANSWER 39 OF 47 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD  
 ACCESSION NUMBER: 2000-146906 [13] WPIDS  
 DOC. NO. CPI: C2000-045917  
 TITLE: New method of reducing body fat in an animal comprising administration of a composition comprising 9-cis, 11-trans **conjugated linoleic acid** and 10-trans, 12-cis **conjugated linoleic acid isomers..**  
 DERWENT CLASS: B05  
 INVENTOR(S): COOK, M E; JEROME, D; PARIZA, M W; JEROME, D L  
 PATENT ASSIGNEE(S): (WISC) WISCONSIN ALUMNI RES FOUND  
 COUNTRY COUNT: 90  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 6020378	A	20000201	(200013)*		6
WO 2000057720	A1	20001005	(200051)	EN	
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL					
OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES					
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS					
LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL					
TJ TM TR TT TZ UA UG UZ VN YU ZA ZW					

#### APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 6020378	A	US 1999-281382	19990330
WO 2000057720	A1	WO 2000-US97	20000104

PRIORITY APPLN. INFO: US 1999-281382 19990330

AB US 6020378 A UPAB: 20000313

NOVELTY - A new method of reducing body fat in an animal without reducing weight gain or **feed** efficiency comprises administration of a composition comprising 9-cis, 11-trans **conjugated linoleic acid** (CLA) and 10-trans, 12-cis **conjugated linoleic acid isomers.**

The composition comprises more of the 9-cis, 11-trans **isomer** than the 10-trans, 12-cis **isomer.**

ACTIVITY - Obesity treatment.

MECHANISM OF ACTION - None given.

USE - The animal is a rodent, mammal or avian animal. The mammal is selected from a bovine, an ovine, a caprine, a primate and a human. The avian animal is a chicken, a duck, a turkey or a quail.

ADVANTAGE - Animals treated with 9-cis, 11-trans **conjugated**  
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**linoleic acid** (CLA) and 10-trans, 12-cis CLA mixtures of the present invention have fewer deleterious effects than animals fed CLA mixtures containing 9-cis, 11-trans CLA and 10-trans, 12-cis CLA at ratios of less than 1:1.  
Dwg.0/0

L87 ANSWER 40 OF 47 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD  
 ACCESSION NUMBER: 1999-385480 [32] WPIDS  
 DOC. NO. CPI: C1999-113409  
 TITLE: Treating diabetes by administration of conjugated linoleic acid.  
 DERWENT CLASS: B05 D13  
 INVENTOR(S): BELURY, M A; PECK, L W; VANDEN HEUVEL, J P  
 PATENT ASSIGNEE(S): (PENN-N) PENN STATE RES FOUND; (PURD) PURDUE RES FOUND  
 COUNTRY COUNT: 85  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9929317	A1	19990617	(199932)*	EN	46
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW					
AU 9919119	A	19990628	(199946)		
EP 1037624	A1	20000927	(200048)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9929317	A1	WO 1998-US26469	19981211
AU 9919119	A	AU 1999-19119	19981211
EP 1037624	A1	EP 1998-963884	19981211
		WO 1998-US26469	19981211

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9919119	A Based on	WO 9929317
EP 1037624	A1 Based on	WO 9929317

PRIORITY APPLN. INFO: US 1997-69567 19971212

AB WO 9929317 A UPAB: 19990813

NOVELTY - Diabetes is treated by administration of **conjugated linoleic acid** (CLA).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a **food** composition comprising CLA comprising:

- (1) a mixture of cis,trans-9,11-octadecadienoic acid and trans,cis-9,11-octadecadienoic acid;
- (2) cis,cis-9,11-octadecadienoic acid or
- (3) trans,cis-10,12-octadecadienoic acid.

ACTIVITY - None given.

MECHANISM OF ACTION - Peroxisome proliferator-activated receptor (PPAR) activator.

Tests were carried out to determine activation of full length mouse PPAR alpha, - beta or - gamma by treating transfected cells for 6 hours with different concentrations of a CLA mixture or geometric  
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**isomers** of CLA. All **isomers** activated all of the PPAR subtypes. Trans,cis-10,12 **isomer** activated PPAR alpha and PPAR beta significantly more then the CLA mixture alone.

USE - Used for treating diabetes, particularly Type II (non insulin dependent) diabetes and Type I (insulin dependent) diabetes mellitus.  
Dwg.0/10

L87 ANSWER 41 OF 47 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD  
ACCESSION NUMBER: 1999-612642 [53] WPIDS  
CROSS REFERENCE: 1999-621856 [52]  
DOC. NO. CPI: C1999-178520  
TITLE: Conjugated linoleic acid enriched composition useful for e.g. reducing body weight or increasing **feed** efficiency and growth.  
DERWENT CLASS: B05 C03 D13 D23 E17  
INVENTOR(S): JEROME, D; SKARIE, C  
PATENT ASSIGNEE(S): (CONL-N) CONLINCO INC; (CONL-N) CONLIN CO INC  
COUNTRY COUNT: 26  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 954983	A2	19991110	(199953)*	EN	15
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT					
RO SE SI					
US 6060514	A	20000509	(200030)		

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 954983	A2	EP 1999-105495	19990317
US 6060514	A	US 1998-72422	19980504

PRIORITY APPLN. INFO: US 1998-72422 19980504; US 1998-72421 19980504

AB EP 954983 A UPAB: 20000624  
NOVELTY - A **conjugated linoleic acid** -containing composition (A) for reducing body fat or treating obesity comprises trans-10,cis-12-**conjugated linoleic acid**.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(1) a daily feeding for human or animal diet comprising a lipid component comprising 10,12-**conjugated linoleic acid** (CLA) (0.01-10 g equivalents);

(2) a CLA composition (B) for increasing **feed** efficiency and growth enriched for cis-9,trans-11-CLA;

(3) the preparation of (A).

ACTIVITY - Anorectic; anabolic; antiallergic. Tests were carried out to determine the relationship between CLA content in **feed** and the amount of back fat in hogs. Results showed that as the 10,12 **isomer** / 9,11 **isomer** ratio increased, the percent reduction in back fat also increased.

MECHANISM OF ACTION - None given.

USE - The composition is useful as a dietary supplement in human **food** and animal **feeds** for reducing body weight or treating obesity. (A) is also useful for increasing muscle mass and **feed** efficiency, attenuating allergic reactions, preventing weight loss due to immune stimulation, elevating CD-4 and CD-8 cell counts, increasing the mineral content of bone, preventing skeletal abnormalities and decreasing the amount of cholesterol in the blood.

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ADVANTAGE - Trans-10,cis-12 **conjugated linoleic acid** is a non-toxic, naturally occurring **food ingredient** and not a drug, then it may be consumed as a part of a normal diet.

DESCRIPTION OF DRAWING(S) - The drawing shows a plot of a logarithmic regression analysis comparing the 10,12 and 9,11 **isomers of conjugated linoleic acid** to the percent reduction of back fat in hogs.  
Dwg.1/2

L87 ANSWER 42 OF 47 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD  
 ACCESSION NUMBER: 1999-621856 [54] WPIDS  
 CROSS REFERENCE: 1999-612642 [52]  
 DOC. NO. CPI: C1999-181753  
 TITLE: Conjugated linoleic acid composition as dietary supplement for controlling body weight.  
 DERWENT CLASS: B05 C03 D13 D23 E17  
 INVENTOR(S): JEROME, D; SAEBO, A; SKARIE, C  
 PATENT ASSIGNEE(S): (CONL-N) CONLINCO INC  
 COUNTRY COUNT: 86  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 954975	A2	19991110	(199954)*	EN	17
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
WO 9956780	A1	19991111	(200001)	EN	
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN					
WO 9956781	A1	19991111	(200001)	EN	
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZA ZW					
AU 9930083	A	19991123	(200016)		
AU 9930953	A	19991123	(200016)		

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 954975	A2	EP 1999-105496	19990317
WO 9956780	A1	WO 1999-US5807	19990317
WO 9956781	A1	WO 1999-US5808	19990317
AU 9930083	A	AU 1999-30083	19990317
AU 9930953	A	AU 1999-30953	19990317

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9930083	A Based on	WO 9956781
AU 9930953	A Based on	WO 9956780

PRIORITY APPLN. INFO: US 1998-72422 19980504; US 1998-72421 19980504

AB EP 954975 A UPAB: 20000330  
 Searched by Barb O'Bryen, STIC 308-4291

NOVELTY - A **conjugated linoleic acid** -containing composition comprises 10,12-**conjugated linoleic acid** and 9,11-**conjugated linoleic acid** in a ratio greater than 1.2:1.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

- (1) a daily ration for human or animal diet comprising a lipid component comprising the composition;
- (2) a **conjugated linoleic acid** (CLA) composition comprising a mixture of free fatty acid or alkylester CLA **isomers**, comprising trans-10,cis-12 octadecadienoic acid (at least 80 %, or at least 92 %);
- (3) an acylglycerol composition as dietary supplement;
- (4) a CLA composition (free fatty acid, triglyceride or alkylester) may comprise cis-9,trans-11 octadecadienoic acid (30-60 %) and trans-10,cis-12 octadecadienoic acid (15-30 %) at a cis-9,trans-11 / trans-10,cis-12 ratio of 2:1; and
- (5) the preparation of the CLA-containing composition.

ACTIVITY - Anorectic; anabolic. Tests were carried out to determine the relationship between CLA content in **feed** and the amount of back fat in hogs. Results shows that as the 10,12 **isomer** / 9,11 **isomer** ratio increased, the percent reduction in back fat also increased.

MECHANISM OF ACTION - None given.

USE - The composition is useful as dietary supplement in human **food** and animal **feeds**, and for treating obesity. The composition may also be used for increasing body weight and **feed** efficiency, reducing allergic reactions, preventing weight loss due to immune stimulation, elevating CD-4 and CD-8 cell counts, increasing the mineral content of bone, preventing skeletal abnormalities and decreasing the cholesterol in the blood.

ADVANTAGE - Trans-10,cis-12 CLA is a non-toxic, naturally occurring **food** ingredient and not a drug, then it may be consumed as part of a normal diet.

DESCRIPTION OF DRAWING(S) - The drawing shows a plot of a logarithmic regression analysis comparing the 10,12 and 9,11 **isomers** of CLA to the percent reduction of back fat in hogs.  
Dwg.1/2

L87 ANSWER 43 OF 47 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD  
 ACCESSION NUMBER: 1998-242664 [22] WPIDS  
 DOC. NO. CPI: C1998-075841  
 TITLE: Preparation of **conjugated linoleic acid** with reduced toxicity - comprises alkali **isomerisation** of **linoleic acid** with propylene glycol as solvent, used in **food** e.g. muscle-enhancing agents.  
 DERWENT CLASS: A60 B05 D13 D23 E17  
 INVENTOR(S): IWATA, T; KAMEGAI, T; KASAI, M; SATO, Y; WATANABE, K  
 PATENT ASSIGNEE(S): (RINO-N) RINORU OIL MILLS CO LTD; (RINO-N) RINORU YUSHI KK  
 COUNTRY COUNT: 29  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 839897	A1	19980506	(199822)*	EN	7
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE SI					
NO 9704882	A	19980504	(199827)		
AU 9742784	A	19980507	(199830)		
JP 10130199	A	19980519	(199830)		4
CA 2219601	A	19980430	(199836)		
Searched by Barb O'Bryen, STIC 308-4291					

KR 98033256	A	19980725 (199932)	
US 5986116	A	19991116 (200001)	
JP 3017108	B2	20000306 (200016)	4
AU 722105	B	20000720 (200040)	

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 839897	A1	EP 1997-118467	19971023
NO 9704882	A	NO 1997-4882	19971023
AU 9742784	A	AU 1997-42784	19971023
JP 10130199	A	JP 1996-288094	19961030
CA 2219601	A	CA 1997-2219601	19971029
KR 98033256	A	KR 1997-55819	19971029
US 5986116	A	US 1997-957774	19971024
JP 3017108	B2	JP 1996-288094	19961030
AU 722105	B	AU 1997-42784	19971023

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
JP 3017108	B2 Previous Publ.	JP 10130199
AU 722105	B Previous Publ.	AU 9742784

PRIORITY APPLN. INFO: JP 1996-288094 19961030

AB EP 839897 A UPAB: 19980604

Preparation of **conjugated linoleic acid** (I) comprises alkali **isomerisation** of a fat or oil (II) containing **linoleic acid** (III) in an alkali-propylene glycol solution.

USE - (I) is used in **foods** e.g. muscle-enhancing agents and nutrition-replenishing agents and as additives for rubbers and insulating materials for IC.

ADVANTAGE - Using propylene glycol as the solvent, instead of ethylene glycol as in prior art processes, gives higher yields of (I) and gives (I) which are much less coloured. The reduced toxicity of the solvent allows (I) to be used in **foods**.

Dwg.0/1

L87 ANSWER 44 OF 47 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

ACCESSION NUMBER: 1997-289296 [26] WPIDS

DOC. NO. CPI: C1997-093130

TITLE: Preparing materials with controlled ratio of polyunsaturated fatty acid isomers - by treating starting material with enzyme that discriminates between isomers.

DERWENT CLASS: B07 D13 D16 E11 E17

INVENTOR(S): CAIN, F W; MCNEILL, G P; MOORE, S R; ZWEMMER, O

PATENT ASSIGNEE(S): (UNIL) LODERS CROKLAAN BV; (UNIL) LODERS-CROKLAAN BV

COUNTRY COUNT: 75

## PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9718320	A1	19970522 (199726)*	EN	53	
RW: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD					
SE SZ UG					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE					
HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX					
NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN					
AU 9676252	A	19970605 (199738)			
Searched by Barb O'Bryen, STIC 308-4291					



EP 866874 A1 19980930 (199843) EN  
 R: AT BE CH DE DK ES FI FR GB GR IE IT LI NL PT SE  
 AU 705157 B 19990513 (199930)  
 JP 11514887 W 19991221 (200010) 44  
 EP 866874 B1 20000705 (200035) EN  
 R: AT BE CH DE DK ES FI FR GB GR IE IT LI NL PT SE  
 DE 69609196 E 20000810 (200045)  
 KR 99067594 A 19990825 (200046)

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9718320	A1	WO 1996-EP5024	19961112
AU 9676252	A	AU 1996-76252	19961112
EP 866874	A1	EP 1996-939054	19961112
		WO 1996-EP5024	19961112
AU 705157	B	AU 1996-76252	19961112
JP 11514887	W	WO 1996-EP5024	19961112
		JP 1997-517651	19961112
EP 866874	B1	EP 1996-939054	19961112
		WO 1996-EP5024	19961112
DE 69609196	E	DE 1996-609196	19961112
		EP 1996-939054	19961112
		WO 1996-EP5024	19961112
KR 99067594	A	WO 1996-EP5024	19961112
		KR 1998-703620	19980514

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9676252	A Based on	WO 9718320
EP 866874	A1 Based on	WO 9718320
AU 705157	B Previous Publ.	AU 9676252
	Based on	WO 9718320
JP 11514887	W Based on	WO 9718320
EP 866874	B1 Based on	WO 9718320
DE 69609196	E Based on	EP 866874
	Based on	WO 9718320
KR 99067594	A Based on	WO 9718320

PRIORITY APPLN. INFO: EP 1995-308228 19951114

AB WO 9718320 A UPAB: 19970626

Preparation of materials, containing **conjugated** unsaturated fatty acid residues (A), comprises subjecting a material having at least 5 wt.% (A), including at least 2 different **isomers**, L1 and L2 of a fatty acid with at least 2 unsaturations and at least 18C atoms at weight ratio Xa, to at least 1 conversion using an enzyme able to discriminate between L1 and L2. The process results in a mixture of at least 2 products at least 1 of which has L1 and L2 in weight ratio Xb that is at least 1.1, best at least 1.3, times Xa. The conversion reaction involves: (i) free fatty acid (FFA) with mono- or poly-alcohol (MPA), mono-, di- or tri-glyceride (G), alkyl ester (AE) or phospholipid (PL); (ii) G with water, AE, MPA or PL; (iii) PL with water, AE, other phospholipids or MPA; or (iv) AE, or wax esters, with MPA, FFA or PL. Also new are: (1) organic material (OM) containing at least 1 wt.% (A) consisting of at least the 2 **isomers** with L1:L2 ratio 2.3-99 (especially 8-15) with L1 and L2 being the most and next most abundant (A) in the material; (2) blends of 0.3-95 (especially 5-40) wt.% OM and 99.7-5 (especially 95-60) wt.% fat; and (3) **food products**, animal **feeds**, **food** supplements or pharmaceuticals containing OM or the blends.

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USE - Polyunsaturated fatty acids (specifically **linoleic acid** (LA)) are known as preservatives (mould inhibitors) and metal chelating agents for **foods**, for preventing weight loss and anorexia, for countering the catabolic effects of interleukin-1, to improve efficiency of **feed** utilisation and possibly as anticancer agents.

ADVANTAGE - The method provides control over the L1:L2 ratio (the 2 **isomers** have different, specific activities); known methods provided only a fixed ratio between them.  
Dwg.0/0

L87 ANSWER 45 OF 47 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD  
 ACCESSION NUMBER: 1997-034075 [03] WPIDS  
 CROSS REFERENCE: 1994-027600 [04]; 1996-187734 [19]; 1999-105112 [09];  
 2000-364422 [30]  
 DOC. NO. CPI: C1997-010590  
 TITLE: Increasing CD-4 and CD-8 lymphocyte levels in mammals -  
 by admin. of conjugated linoleic acid, useful for  
 combating adverse effects of tumour necrosis factor or  
 viral infections.  
 DERWENT CLASS: B04 D13 D16  
 INVENTOR(S): COOK, M E; DEVONEY, D; PARIZA, M W; YANG, X  
 PATENT ASSIGNEE(S): (WISC) WISCONSIN ALUMNI RES FOUND  
 COUNTRY COUNT: 71  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9638137	A1	19961205	(199703)*	EN	23
RW: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG					
W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN					
AU 9652535	A	19961218	(199714)		
US 5674901	A	19971007	(199746)		8
EP 831804	A1	19980401	(199817)	EN	
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
US 5827885	A	19981027	(199850)		
US 6020376	A	20000201	(200013)		

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9638137	A1	WO 1996-US3529	19960314
AU 9652535	A	AU 1996-52535	19960314
US 5674901	A CIP of	US 1992-875896	19920429
	CIP of	US 1995-456988	19950601
		US 1995-458956	19950602
EP 831804	A1	EP 1996-908819	19960314
		WO 1996-US3529	19960314
US 5827885	A CIP of	US 1992-875896	19920429
	CIP of	US 1995-456988	19950601
	Div ex	US 1995-458956	19950602
		US 1997-912614	19970818
US 6020376	A CIP of	US 1995-456988	19950601
	Div ex	US 1995-458956	19950602
	Div ex	US 1997-912614	19970818
		US 1998-170604	19981013

## FILING DETAILS:

Searched by Barb O'Bryen, STIC 308-4291

PATENT NO	KIND	PATENT NO
AU 9652535	A Based on	WO 9638137
US 5674901	A CIP of	US 5430066
EP 831804	A1 Based on	WO 9638137
US 5827885	A CIP of	US 5430066
	Div ex	US 5674901
US 6020376	A Div ex	US 5674901
	Div ex	US 5827885

PRIORITY APPLN. INFO: US 1995-458956 19950602; US 1992-875896  
 19920429; US 1995-456988 19950601; US  
 1997-912614 19970818; US 1998-170604 19981013

AB WO 9638137 A UPAB: 20000630

Maintaining or elevating the CD-4 and CD-8 cell levels, or preventing or alleviating the adverse effects of a virus or tumour necrosis factor (TNF), in a mammal involves oral or parenteral admin. of **conjugated linoleic acid (CLA)** or a substance which is converted into CLA in vivo. Also claimed are: (i) the prepn. of CLA by aerobically incubating a suitable Lactobacillus strain in a medium contg. free **linoleic acid** and nutrients at ambient temp.; and (ii) a CLA-enriched milk prod. made by process (i) using a milk-based medium.

USE - CLA (i.e. 9,11- and/or 10,12-octadecadienoic acid, including geometric isomers) maintains or increases the CD-4 and CD-8 lymphocyte populations to bolster or benefit the immune system, and prevents or alleviates the adverse effects of prodn. or exogenous admin. of TNF and viral infections. Typically CLA can be used to prevent or counteract anorexia and other adverse catabolic effects caused by viral infections or vaccination. Viral infections include those caused by picorna-, toga-, paramyxo-, orthomyxo-, rhabdo-, reo-, retro-, bunya-, corona-, arena-, parvo-, papo-, adeno-, herpes- and pox viruses, e.g. fowl pox in chickens. The undesirable catabolic effects of TNF may occur in patients due to cancer, infectious diseases, vaccinations or exposure to immunostimulants, and may be due to depletion of CD-4 and CD-8 cells caused by a lack of CLA in the diet. CLA may be added to **foods** or feedstuffs to give a CLA concn. in the diet of 1-10000 ppm, or may be administered in pharmaceutical or veterinary compsns.

ADVANTAGE - CLA is a heat-stable and relatively non-toxic natural **food** ingredient.  
 Dwg.0/2

L87 ANSWER 46 OF 47 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD  
 ACCESSION NUMBER: 1993-159240 [19] WPIDS  
 CROSS REFERENCE: 1990-274893 [36]; 1991-232034 [32]  
 DOC. NO. CPI: C1993-070407  
 TITLE: New phospholipid ester(s) of 9,11- and 10,12-octadeca-di  
 enoic acids - are useful as antioxidants and mould growth  
 inhibitors.  
 DERWENT CLASS: D13 E11  
 INVENTOR(S): HA, Y L; PARIZA, M W  
 PATENT ASSIGNEE(S): (WISC) WISCONSIN ALUMNI RES FOUND  
 COUNTRY COUNT: 1  
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5208356	A	19930504	(199319)*		9

APPLICATION DETAILS:

Searched by Barb O'Bryen, STIC 308-4291

PATENT NO	KIND	APPLICATION	DATE
US 5208356	A CIP of	US 1989-313120	19890217
		US 1991-679841	19910403

PRIORITY APPLN. INFO: US 1989-313120 19890217; US 1991-679841  
19910403

AB US 5208356 A UPAB: 19940928  
Phospholipid esters (I) of (a) 9,11-octadecadienoic acid, and (b) 10,12-octadecadienoic acid are new. Also claimed are the pure, H<sub>2</sub>O-soluble salts of the **conjugated** linoleic acids (CLA), 9,11-octadecadienoic acid and 10,12-octadecadienoic acid, and the esters of CLA and the cis-9,trans-11 **isomer**. These cpds. can be used to prevent oxidn. or inhibit mould growth. Specific esters of CLA include CLA Me ester, triglyceride esters of CLA and the cis-9,trans-11 **isomer**, and phospholipid esters of the cis-9,trans-11 **isomer**. Free acid forms of the CLA may be prepd. by reaction of **linoleic acid** with a protein such as whey protein at up to 85 deg.C.. The free acid form of the cis-9,trans-11 **isomer** (the biologically active form of CLA) may be prepd. by treatment of a **food** grade oil (safflower hydrolysate, etc.) with a linoleate **isomerase** at room temps.. Novel pure esters may be prepd. by conventional esterification of the appropriate free acid, or extd. in pure form from biological sources. Novel pure salts are prepd. by reaction of CLA or cis-9,trans-11 **isomer** with a base (NaOH or KOH) at pH 8-9. Diketone is formed (similar to the antioxidant n-tritriacontan-16,18-dione; Agric. Biol. Chem., 45, 735, 1981) when CLA is exposed to O<sub>2</sub>. (I) may be prepd. by introducing CLA into phospholipid enzymatically (using phosphosynthetases), or CLA or the cis-9,trans-11 **isomer** could be fed for a few weeks to an animal (e.g. chicken), and the 'natural' (I) extd. in pure form after sacrifice.

USE - The specific salts (I) are useful as natural, non-toxic, effective agents for preventing mould growth and inhibiting oxidn. in **foods**. (I) are more effective as antioxidants than the parent **conjugated** linoleic acids (CLA).

Dwg.0/1

Dwg.0/1

L87 ANSWER 47 OF 47 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD  
ACCESSION NUMBER: 1990-274893 [36] WPIDS  
CROSS REFERENCE: 1991-232034 [32]; 1993-159240 [19]  
DOC. NO. CPI: C1990-118790  
TITLE: Preserving prod. by preventing oxidn., quenching singlet oxygen growth - by adding safe and effective amt. of active form of conjugated linoleic acids.  
DERWENT CLASS: D13 E17  
INVENTOR(S): HA, Y L; PARIZA, M W  
PATENT ASSIGNEE(S): (WISC) WISCONSIN ALUMNI RES FOUND  
COUNTRY COUNT: 24  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9009110	A	19900823	(199036)*		29
RW: AT BE CH DE DK ES FR GB IT LU NL SE					
W: AU BG FI HU JP NO RO SE SU					
AU 9051504	A	19900905	(199048)		
EP 411101	A	19910206	(199106)		
R: AT BE CH DE ES FR GB IT LI LU NL SE					
US 5017614	A	19910521	(199123)		
JP 03504804	W	19911024	(199149)		

Searched by Barb O'Bryen, STIC 308-4291

IL 93351 A 19930708 (199335)  
 JP 06061246 B2 19940817 (199431) 11  
 EP 411101 A4 19910814 (199518)  
 EP 411101 B1 19950503 (199522) EN 12  
 R: AT BE CH DE DK ES FR GB IT LI LU NL SE  
 DE 69019084 E 19950608 (199528)  
 CA 1340945 C 20000404 (200035) EN

## APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 411101	A	EP 1990-903647	19900202
US 5017614	A	US 1989-313120	19890217
JP 03504804	W	JP 1990-503729	19900202
IL 93351	A	IL 1990-93351	19900212
JP 06061246	B2	JP 1990-503729	19900202
		WO 1990-US630	19900202
EP 411101	A4	EP 1990-903647	
EP 411101	B1	EP 1990-903647	19900202
		WO 1990-US630	19900202
DE 69019084	E	DE 1990-619084	19900202
		EP 1990-903647	19900202
		WO 1990-US630	19900202
CA 1340945	C	CA 1989-603181	19890619

## FILING DETAILS:

PATENT NO	KIND	PATENT NO
JP 06061246	B2 Based on	JP 03504804
	Based on	WO 9009110
EP 411101	B1 Based on	WO 9009110
DE 69019084	E Based on	EP 411101
	Based on	WO 9009110

PRIORITY APPLN. INFO: US 1989-313120 19890217

AB WO 9009110 A UPAB: 20000725

A method of preserving a prod. by preventing oxidation, quenching singlet oxygen or inhibiting mould growth in the prod. comprises adding to the prod. a safe and effective amt. of an active form of **conjugated** linoleic acids (CLA). Also claimed is a method of preserving a prod. by adding **linoleic acid** and a protein capable of in situ converting the **linoleic acid** to CLA, a safe and effective preservative comprising CLA and a non-toxic salt of 9,11-octadecadienoic acid, 10,12-octodecadienoic acid or their active **isomers**.

USE/ADVANTAGE - The method of preserving the **food** is safe, natural and effective. The novel compsns. can be prepd. by a simple, inexpensive method. The amt. employed of CLA and its non-toxic salts is 1-1,000 ppm of prod.. The compsn. can be used in natural **foods**.  
 @ (29pp DWg.No.0/4)

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